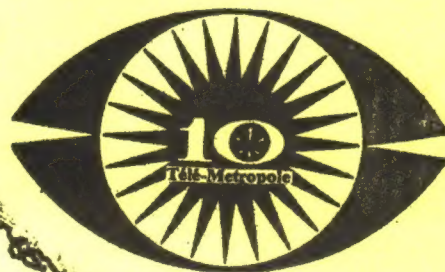
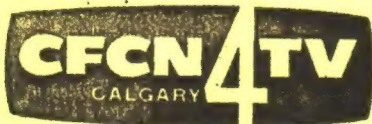


VHF-UHF DIGEST

May 1970



ckdw television



VHF-UHF DIGEST is the official monthly publication*
of WTFDA; Worldwide TV FM DX Association. Published*
the first of each month at club headquarters, Box *
5001, Harbor Station, Milwaukee, Wisconsin 53204. *



REGULAR EDITION:

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REGULAR EDITION SENT OVERSEAS:

\$5 per year sent by third class.

SAMPLES:

30% per issue

WTFDA
PUBLISHING STAFF

Dave Janowick
Morrie Goldman
Gary Olson
F.S. Dombrowski
Bill Heusmann

New Look

The Worldwide TV FM DX Association is pleased to announce the purchase of a new mimeograph machine. Due to the many problems encountered in publishing your VHF-UHF Digest on our old hand-crank mimeo, a thorough investigation was made to see if a better method of publishing could be found. As members will recall, over the past few months numerous difficulties prevented our publishing a neat, clean bulletin each month. It was decided by the publishing staff that an overhauling of the present mimeo was necessary; estimates from the many local shops in Milwaukee showed, however, that WTFDA would be best off in trading the present equipment for a better unit if one could be found. Estimates for cleaning and repair started at \$70 and worked up (with replacement parts extra). An electric Rex Rotary D-270 was available used from a local shop for \$150 and the old machine in trade. It was decided that the bargain would be consummated based on the club getting a 1-year parts and labor warranty. This month we are running off the old stencils on the old machine prior to switching to wider stencils for the new mimeo. Next month we believe there will be an appreciable improvement in the quality of our bulletins due to this necessary purchase.

Mimeo Fund

Want to help your club. Donations are being accepted for the "mimeo fund". The club treasury has been barely able to handle the expense of the new mimeo, and we are currently riding the line between the red and black. Any assistance provided by the members will be much-appreciated and will be much-heralded in upcoming issues of this publication. Now's your chance - do something for WTFDA; every bit of assistance will make your publications better in the future.

Dues Rise?

The threat of a postal increase looms overhead. In order to continue to meet obligations it may be necessary to raise annual membership dues. If postage goes up again it means more problems for all clubs (in addition to greater sales taxes on supplies, higher costs of essential publishing materials, etc.). This problem is being studied; it seems likely dues will go up if postage rates go up. Any comments?

INRC Convention

The site of the INRC convention will be Patapsco State Park in the Hollofield area of the park. Location is 6 miles west of Baltimore Maryland. Date will be June 20th. Make plans to attend!

Membership Renewal Due this month:

Al Kopeck and J. Coker

CCI.

Bill Heusmann, 2804 Brattleboro Ave.
Des Moines, Iowa 50311

UnIDed programs:

J. Joel Rosenberg, 47 Pannahill Road, Downsview, Ontario

December 24, 1969- Skip reception from S-SW: (EST) All ch. 2

- 1705 Batman
- 1707 Bugs Bunny cartoon
- 1711 Kiddie show, man sitting at table with clown
- 1714 Batman again
- 1715 Roadrunner cartoon
- 1716 Ad for '101 Dalmatians'
- 1727 Ad for NBC special 'Christopher Discovers America'
- Catwoman on Batman
- Batman and cartoon, alternating sound of one, pic of other
- 1728 UnID TP
- 1734 O Henry ad?
- Man with guitar singing, people sitting around.
- 1802 Perry Mason
- 1805 Sesame Street: kids singing '1,2,3...etc.'
- 1808 Man singing again, playing guitar and banjo

On channel 4 -

- 1715 Gary Moore on To Tell the Truth
- 1724-54 Mike Douglas with four people
- 1726 Car safety promo, tip for slippery roads.

Charles A. Dobbins, 12851 Longacre, Detroit, MI 48227 (EST)

- | | | | |
|---------|------|----------|--|
| 3/18/70 | 0557 | MS ch. 4 | Square test pattern as sketched.
No call. 140° heading on antenna |
| 3/19/70 | 0555 | As? ch 2 | Color pattern? with flowers or circles in center. No audio. 90° antenna direction.
Lots of rolling, tearing and fluttering. |
| 3/19/70 | 0555 | MS ch. 2 | Large white 2 and circle over above opening (sic). No call or location |
| 3/19/70 | 0608 | As? ch 9 | Color test panel shown; no call or location.
90° best heading for reception. Lasted about 20 seconds. |
| 4/6/70 | 0531 | MS ch. 2 | White letters, <u>FL</u> or <u>BL</u> . Audio was someone talking. 70° heading. |

Please excuse scarcity and delay of CCI columns lately, but the reports just haven't been forthcoming. It takes a couple of months to get enough to publish.

73, *Bill*

CONVENTION NEWS!!!

THE 1970 WTFDA CONVENTION DATE HAS BEEN SET AND PLANS ARE NOW BEING MADE FOR AN EVEN BETTER CONVENTION PROGRAM THAN LAST YEARS. THE CONVENTION IS TO BE HOSTED BY BOB SEYBOLD OF DUNKIRK, NEW YORK, ON AUGUST 7TH, 8TH AND 9TH. AMONG OTHER CONVENTION ACTIVITIES, BOB WILL DEMONSTRATE WHAT IT'S LIKE TO DX FROM ABOUT 1400' AAT! ONCE YOU'VE SEEN THIS TREMENDOUS LOCATION, YOU'LL FEEL LIKE MOVING TO A MOUNTAIN, OR GIVING UP DXING. "BOB'S HILL", AND HIS EXCELLENT DXING SKILL, HAVE HELPED BOB TO A LOG LARGER THAN ANY OTHER TV-DXER'S.

NEXT MONTH, WE HOPE TO HAVE A COMPLETE BREAKDOWN OF CONVENTION EXPENSES. IT NOW APPEARS, HOWEVER, THAT TOTAL CONVENTION EXPENSES PER PERSON, INCLUDING REGISTRATION FEE, MOTEL, FOOD, ETC. (LESS YOUR TRANSPORTATION) SHOULD BE UNDER \$30. MOTEL RESERVATIONS CAN BE MADE THROUGH BOB, BUT FURTHER DETAILS ON THIS NEXT MONTH. START MAKING YOUR PLANS NOW FOR THIS GREAT ANNUAL GET-TO-GETHER!

GARY A. OLSON
1203 KENTON
DEERFIELD, ILL

DEPT FIELD, 194

UHF	ETV	103
UHF	Com	180
VHF	ETV	80
VHF	Com	509

New Target Dates Reported:

WDRB-TV, ch. 41, Louisville, Ky., late summer 1970

WCFL-TV, ch. 38, Chicago, Ill., late 1970

Miscellaneous Changes Reported:

WBNG (TV) ch. 42, Birmingham, Ala., will become a fulltime CBS affiliate on May 31, 1970

Stations Reported Off The Air:

KAEC-TV, ch. 19, Nacogdoches, Tex., went off the air March 18, 1970

FCC COMPLETED ACTION

New Call Letters Issued:

Winona, Minn., ch. 44, granted KWIH (TV)

Call Letter Changes:

WITA-TV, San Juan, P.R., to WUHT-TV

WITB-TV, Mayaguez, P.R., to WUHM-TV

WITP-TV, Ponce, P.R., to WHHP-TV

Other Changes Allowed:

KFTV (TV) ch. 21, Hanford, Calif., ant. height to 1930'

KBRT (TV) San Angelo, Calif., ERP to 1290 kw. - ant to 700'

WSBA-TV, ch. 43, York, Pa., ERP to 1000 kw. - ant. to 530'

WBBJ-TV, ch. 7, Jackson, Tenn., ERP to 316 kw. - ant. to 1060'

KHMA-TV, ch. 11, Houma, La., ERP to 1161 kw.

KHSD-TV, ch. 11, Lead, S.D., ERP to 269 kw.

WOTG-TV, ch. 51, Ocala, Fla., ERP to 575 kw. - ant. to 940'

ACTION APPLIED FOR OR REQUESTED

Applications For New Stations:

*Peoria, Ill., ch. 47 (Illinois Valley Public Telecommunications Corp.) 558 kw.

*Aberdeen, S.D., ch. 16 (State Board for ETV) 378 kw.

*Agana, Guam, ch. 10 (Guam Educational Telecommunications Corporation)
27.4 kw.

Miscellaneous Requests:

XXI-TV, Rochester, NY, requests the reservation of ch. 61 for ETV use in Rochester, NY

[illegible]

* TV GUIDE EXCHANGE *

WTfDA has been listing, from time to time, the names of members interested in exchanging program listings from different areas of the United States, Canada and Mexico. The purpose of exchanging listings is to aid DXers in identifying or helping to identify unidentified stations received at their receiving locations. In addition, a list showing approximate sign-on and sign-off times and programs is helpful in guiding a station seeker in when he should look for stations not yet in his log. This month we have one addition for the master list:

John Robertson, 6065 Gardner Lane,
Glaswell, Mich. 48422

Detroit, W. Ontario,
and Mich. State
editions of TVG

***** editions of IVG *****

new FCC-FM news/data

Charles A. Dobbins
12851 Longacre
Detroit, Mi. 48227

FEBRUARY DATA

FM APPLICATIONS

ant. height is above average terrain

* - Educ. stas.

Battle creek, MI. 95.3 mhz. , 3 kw. , 101 ft.
Clinton, IA. 97.7 mhz. , 3 kw. , 300 ft.
Corpus Christi, TX. 99.1 mhz. , 100 kw. , 197 ft.
Eagle Pass, TX. 92.7 mhz. , 3 kw. , 214.8 ft.
Mt. Pleasant, IA. 105.5 mhz. , 3 kw. , 300 ft.
Montour Falls, NY. 104.9 mhz. , 1 kw. , 410 ft.
Penascola, FL. 89.3 mhz. , 100 kw. , 505 ft.
Salida, CO. 92.1 mhz. , 3 kw. , -1,218 ft.
Santa Rosa, CA. 100.1 mhz. , 3 kw. , 282 ft.
Savannah, GA. 102.1 mhz. , 100 kw. , 943 ft.
Wailuku, HI. 95.1 mhz. , 97.76 kw. , 286.3 ft.
* Wesson, MS. 91.1 mhz. , 10 watts (total power)

STATIONS ON THE AIR AS OF
MARCH 1, 1970
Commercial FM - 2,099
Educational FM - 403

AUTHORIZED STATION STARTS -

Breckenridge, MN. KKWB 104.9 mhz. , 3 kw. , 155 ft.
Buford, GA. WGO 102.3 mhz. , 3 kw. , 240 ft.
Carrollton, AL. WWAG 94.1 mhz. , 31 kw. , 360 ft.
Lincoln, NB. KRNU* 90.3 mhz. , 10 watts (total power)
New Orleans, LA. WWL-FM 101.9 mhz. , 95 kw. , 830 ft.
Oneonta, NY. WGMR-FM 103.9 mhz. , 500 w. , 650 ft.
Ponce, PR. WPRP-FM 105.1 mhz. , 9 kw. , 160 ft.
Vavaville, CA. KVFS 95.3 mhz. , 2.85 kw. , 220 ft.

STATION GRANTS-

Hammondsport, NY. 98.3 mhz. , 2 kw. , 255 ft.
* Lincoln University, PA. 88.7 mhz. , 10 watts (total power) , 40 ft.
* New Orleans, LA. 89.9 mhz. , 10 watts (total power)
* Senatobia, MS. 90.1 mhz. , 2.58 kw. , 147 ft.

NEW CALL LETTERS-

Ann Arbor, MI. WOIA-FM becomes WNRZ
Chico, CA. KEQR becomes KCEM
Janesville, WI. WCLO-FM becomes WJVL
Neenah Menasha, WI. WDCC becomes WNRR
Portland, OR. KPFM becomes KPAM-FM
Smithtown, NY. WGSN-FM becomes WCTO
Tallahassee, FL. WANM becomes WGLF

MARCH DATA -

FM APPLICATIONS -

* Boise, ID. 94.2 mhz. , 10 watts , -40 ft.
Canton, MO. 102.3 mhz. , 3 kw. , 175 ft.
DeFuniak Springs, FL. 103.1 mhz. , 3 kw. , 181.95 ft.
* Denver, CO. 90.1 mhz. , 10 watts , 145 ft.
Douglas, GA. 99.5 mhz. , 34.2 kw. , 267 ft.
Helena, AK. 107.5 mhz. , 28.03 kw. , 278 ft.
LaGrange, TX. 104.9 mhz. , 3 kw. , 203 ft.
Lake Havasu City, AZ. 95.9 mhz. , 3 kw. , -315 ft.
Lake Oswego, OR. 106.7 mhz. , 100 kw. , 500 ft.
Laredo, TX. 92.7 mhz. , 3 kw. , 154 ft.
Marion, SC. 94.3 mhz. , 3 kw. , 190.4 ft.
Milford, DL. 95.9 mhz. , 3 kw. , 231.3 ft.
Mobile, AL. 92.9 mhz. , 100 kw. , 270 ft.
* Norman, OK. 106.3 mhz. , 3 kw. , 151 ft.

MAY, 1970

Palatka,FL. 99.9mhz. , 3 kw. , 178.04 ft.
Rochester,IN. 92.1mhz. , 3 kw. , 101 ft.
Scobey,Mont. 95.7mhz. , 60.334 kw. , 657 ft.

AUTHORIZED STATION STARTS

Aspen,CO. KSPN 97.7mhz. , 480 kw. , -1,790 ft.
Bellwood,PA. WHGM 103.9mhz. , 250 watts , 870 ft.
Danville,IL. WIAI 99.1mhz. , 50 kw. , 500 ft.
Eugene,OR. KPNW-FM 99.1mhz. , 97 kw. , 1490 ft.
Gate City,VA. WGAT-FM 104.9mhz. , 1.2 kw. , 450 ft.
Havana,IL. WDUK 99.3mhz. , 3 kw. , 300 ft.
Houston,TX. KPFT 90.1mhz. , 47 kw. , 430 ft.
* Kingsville,TX. KTAI 91.9mhz. , 10 watts(total power)
Magee,MS. WSJC-FM 107.5mhz. , 100 kw. , 490 ft.
* Reading,OH. WRCJ 89.3mhz. , 10 watts(total power)
Tucson,AZ. KWFM 92.9mhz. , 29 kw. , 86 ft.
Winnebago,IL. WRVI 95.3mhz. , 1.1 kw. , 260 ft.

STATION GRANTS -

* Atlanta,GA. 88.5mhz. , 19.4 kw. , 366 ft.
* Boston,MA. 91.7mhz. , 10 watts(Total power) , 96 ft.
* Cupertino,CA. 91.5mhz. , 10 watts(total power)
Dowagiac,MI. 97.3mhz. , 3 kw. , 108 ft.
* East stroudsburg,PA. 88.7 mhz. , 10 watts , -160 ft.
* Hamilton,NY. 90.1mhz. , 10 watts , 50 ft.
Hampton,SC. 103.1mhz. , 3 kw. , 142 ft.
* LaCrosse,WI. 88.9mhz. , 69.22 kw. , 492.875 ft.
Lancaster,CA. 106.3mhz. , 3 kw. , 134.25 ft.
Lyons,KA. 105.5mhz. , 3 kw. , 175 ft.
Mineral Wells,TX. 95.9mhz. , 3 kw. , 300 ft.
New Boston,TX. 95.9mhz. , 3 kw. , 300 ft.
Panama City,FL. 98.5mhz. , 100 kw. , 345 ft.
Waverly,TN. 104.9mhz. , 3 kw. , 300 ft.
* Yuma,AZ. 91.5mhz. , 10 watts(total power) , 150 ft.

NEW CALL LETTERS

Auburn,NY. WMBO-FM becomesWRLX
San Angelo,TX. KWFR-FM becomesKLIXY

Since this is my first column for this WTFDA VUD I would appreciate hearing from some of the readers of this column in regards to the information that you want to see in the column. Since I have not seen any other issues of this column I have been pretty much in the dark as to what to include in the column and any ideas that you might have regarding improvement of it would be greatly appreciated.

See you next month,
good DX-ing
Chuck

VHF RADIO

Pat Dyer
327 Solar Drive
San Antonio, Texas
78227

Deadline: 15th of month

May 1979

Sometime ago I was contacted about taking over the editor spot for this column. Due to several pressing factors, I have not been able to be sure that I could do it until just recently.

I know that this column has never had a large number of regular contributors. A few years ago this might have been ascribed to the lack of equipment for the 30-50 MHz range. Such is not the case now. There are literally scores of receivers being made by the manufacturers for this low VHF band. They range from under \$20 to as high as you wish. The inexpensive models do have their drawbacks, but with one such model in less than a year I logged some 40 different paging stations on Es & F2.

The lure of the band varies with the person. Mine was to keep tabs on the F2 MUF from South America so I would have a better chance to get in on any 6-meter openings down there. It wasn't until after I had gotten a unit that I found out about the paging stations. WVA 335 was my first, followed soon by Es with FIF 528 and FIF 651. I later found the group at 43-MHz.

Because of their nearly continuous transmissions, the pagers are the easiest to log. Luckily, my local area doesn't have any on in the 30-50 band, so all the channels are clear for DX. MUF can be estimated by noting how short the skip gets on them. From this location 43 MHz is via Es only while 35 has both Es and F2 skip.

If you get tired of listening to the taped paging messages, you can find plenty else to monitor. For the lucky ones there's the chance of getting European TV audio. If you like police calls, you can find many around 37 MHz and between 42 and 46. The huge number of fire departments around 33 MHz provide very interesting listening with their automatic fire alarm tones, etc. Several times I have heard mobile units enroute to calls, complete with their sirens.

If you don't lean toward public safety, there are numerous mobile-phone links near 35 MHz. However, if you listen to these be sure you don't divulge the contents as they're covered by the Secrecy of Communications Act. The same Act covers all the business radio operations.

Above 40-MHz you will find numerous state and federal stations. For me the 44-MHz region is full of South American telephone links. Many of these are repeater stations, and I've had the weird experience of hearing stateside stations skip down there and key thru them (the Texas Department of Public Safety and a Buffalo pager, for example).

I've tried to give a very sketchy outline of the low VHF band. Space in the VUD does not permit a complete listing of all the stations in that range. There are several popular magazines that list these, with a certain geographical region in each issue. White's Radio Log has been doing this for sometime.

I hope to try to have this column limited to F2 and Es reports for the 30-50 range, concentrating on 35-MHz and above.

Previous issues of the VUD have had lengthy lists of pagers. I am sure that most of them are not even active. I'm therefore requesting those interested to let me know what pagers they've heard on lately.

The following short list of pagers is based on what I have heard active in the last 18 months or so. Last summer I was without a 30-50 receiver, so some may no longer be on either. Many stations when IDing give some sort of little slogan like "air phone" etc. Those listed without calls are those that don't give them. Most give their locations. With high F2 or Es, the 35-MHz channels become a mass of heterodynes with screeching traffic light and other control signals.

May 1970

KIY 757	35.22	Montgomery, Ala.	KOD 303	35.22	Detroit, Mich.
KOT 328	35.58	Tucson, Arizona	KOC 884	43.58	Detroit, Mich.
KID 342	35.22	Fresno, Calif.	KAD 931	35.58	Kansas City, Mo.
-	35.58	Long Beach, Cal.	KAT 245	43.58	Kansas City, Mo.
KIL 437	35.50	Sanita Cruz, Cal.	KAA 893	43.58	St. Louis, Mo.
KID 347	35.58	Stockton, Calif.	KOC 482	35.22	Concord, N.H.
KIF 651	35.58	Ft. Lauderdale, Fla.	KIM 905	35.22	Charlotte, N.C.
KII 510	35.58	Jacksonville, Fla.	KOC 877	43.58	Cincinnati, Ohio
KIA 645	35.22	Miami, Florida	KOC 881	43.58	Cleveland, Ohio
KIL 367	43.58	Miami, Florida	-	35.58	Oklahoma City, OK
KIY 508	35.22	Orlando, Florida	KGC 223	35.22	Philadelphia, Pa.
KII 953	35.58	Atlanta, Georgia	-	35.58	Scranton, Pa.
KIG 300	43.58	Atlanta, Georgia	-	35.22	Wilkes-Barre, Pa.
KU 217	35.58	Honolulu, Hawaii	KIF 653	43.58	Memphis, Tenn.
KOC 645	35.58	Chicago, Illinois	KIG 837	35.58	Nashville, Tenn.
KOC 644	43.58	Chicago, Illinois	KKI 445	35.58	Houston, Texas
KOC 266	35.58	Springfield, Mass.	WWA 335	35.22	San Juan, P. R.

I've only heard this with a tone (42) ID, never with paging traffic.

So again, if any members know of other pagers on the air, or know that any of the above have quit, please send the information in.

To give an indication how DX has been lately in the 30-50 range, I'll present some excerpts from my log (including 50-MHz notes). All times are CDT. WWA 335 is a daily event so it will be omitted.

Mar 1: 1130, KGC 223	Apr 9: 1355, 50-MHz Cook Island
1145, Scranton	Apr 11: 1345, 50-MHz Argentina
1150, Wilkes-Barre	Uruguay
1245, KOC 482	Apr 14: 1400, 50-MHz Cook Island
	2020, 50-MHz Arg., Peru (11)
Mar 8: 1620, 50-MHz F2 backscatter	Apr 15: 1600, 50-MHz Argentina
to into 16 different	Apr 16: 1245, 50-MHz Argentina
1810 states	1300, 50-MHz Cook Island
1740, 50-MHz F2 Puerto Rico	

Mar 9: 50-MHz Cook Island, 2050

Mar 12: 1000, KOC 266, KOC 482
1625, KIY 508, Es

Mar 18: 1900, KUA 217

Apr 4: 1530, 50-MHz Argentina (F2)
(11) 1935, 50-MHz Argentina, Peru

Apr 5: 1405, 50-MHz Cook Island
1520, 50-MHz Argentina

Apr 6: 2020, KII 953
2115, KIY 508

The purpose of all this was to show that conditions lately have been very good for the 30-50 band. Most of the days in March and April the FUF peak was not below 40 MHz.

In the future I will not report Es mode for 50-MHz, only F2 and 11 which will be unlikely in the next few months. All 50-MHz above F2 unless noted differently.

Depending on the response to this column, I will take it on a monthly or bi-monthly basis. I hope by the logging of pagers by Es this summer by members some new light might be shed on Es, particularly very late at night Es events.

Well, I've managed to make it thru this first column. I'll be looking for your DX loggings and other information and comments.

FCC - FM

NEWS
DATA

Roger W. Winsor
718 N. Fremont Road
Valparaiso, Indiana
46383

FM News for April 1969
FM STATIONS OPERATING AS OF DEC. 1. 1969
Commercial FM 2070
Educational FM 391
Total FM 2461

FCC COMPLETED ACTIONS (Final actions)

Algona, Iowa.....92.7 2.73kw...KLGA Inc. AAT 194 ft.
Sparks, Nevada...98.3 3kw.....Edward Henry Schultz AAT minus 535 ft.
Dunn, No. Carolina 103.1 3kw...No. Carolina Central Bdcsters, Inc AAT 255 ft.
Lynchburg, Va....98.3 3kw.....Griffith Broadcasting, Inc. AAT 225 ft (WLLL-FM)
St. Albans, Vt...102.3 3kw....R. I, Kimel/Bessie W. Grad AAT 215
Dunnellon, Fla...(My error, this is BCB and I'm out of correction fluidRWW)
Buena Park, Cal..90.1 .00632kwBuena Park School Dist. AAT minus 36.18 ft.
Savannah, Ga.....96.5 100kw...So. Atlanta Bdcsters Corp. AAT 1,311 ft
Carson City, Nev.94.7 29kw....Western Inspirational Bdcsters, Inc. AAT 2,160 ft.
Sequin, Texas....105.3 37.15kwSequin Broadcasters, Inc. AAT 135 ft (KWED-FM)
Mobile, Alabama..94.9 30.7kw..Duke Broadcasting Corp. AAT 134 ft.

STARTS AUTHORIZED

KPER(FM) Gilroy, Calif. 94.3 90 watts AAT 1,350 ft.
WTYD(FM) New London, Conn. 100.9 2.4kw AAT 300 ft.
WLOV-FM Washington, Ga. 100.1 2.4kw AAT 320 ft.
KSNN-FM Pocatello, Idaho 93.7 29kw AAT 4 ft. (Really now!!)
WVFC(FM) Benton, Illinois 98.3 860watts AAT 150 ft.
WTPC(FM) Elsah, Illinois 89.7 TPO 10watts
WSHY(FM) Shelbyville, Ill. 104.9 3kw AAT 120 ft.
WXUS(FM) Lafayette, Ind. 92.7 3kw AAT 165 ft.
KBJC(FM) Great Bend, Ks. 91.9 TPO 10watts
WMDC-FM Hazlehurst, Miss. 100.9 3kw AAT 275 ft.
KIVE-FM Glendive, Mont. 96.5 95kw AAT 30 ft.
WRHO-FM 0 Onaonta, New York 89.5 TPO 10 watts
WQFS(FM) Greensboro, N.C. 90.7 TPO 10 watts
KPWN(FM) Parowan, Utah 90.9 TPO 10 watts

CHANGES TO ALREADY EXISTING STATIONS

KOST(FM) Los Angeles, Cal. new aux. XR 3.6kw.
KWBI(FM) Morrison, Colo. Change XR AAT 350 ft. ERP 25kw 91.1
WAUG-FM Augusta, Ga. Change XR AAT 165 ft 100kw ERP 105.7
WVSL-FM Slidell, La. Change XR loc. AAT 350 ft. 100kw ERP 105.3??
KJAK(FM) Oklahoma City, OK Change XR loc. AAT 490 ft. ERP 100kw
WXRA(FM) Woodbridge, Va. Change XR loc. AAT 295 ft. ERP 50kw 105.9
WCMX(FM) Ft. Wayne, Ind. Change XR type AAT 300 ft. 3kw ERP
WJFM(FM) Grand Rapids, MI. Change ant. type AAT 800 ft. ERP 470kwh/64kwV 93.7
KEQR(FM) Chico, Calif. Change XR loc. AAT 215 ft. ERP 5kw 95.1
KRMS-FM Osage Beach, Mo. Chg. ant. type AAT 285', ERP 2.4kw 93.5
KRWG(FM) Las Cruces, NM to 90.7mc, ERP 100kw AAT 420 ft.
KCPX-FM Salt Lake City, U Chg. XR AAT 2930 ft. ERP 27kw 98.7
WKZN(FM) Kenosha, Wis. Chg. XR loc. AAT 500 ft. ERP 5kw 96.9
WCNA-FM Scottsboro, Ala. Install new XR AAT 400 ft. 98.3
KCBH-FM Greeley, Colo. chg. to 91.5mc ERP 3kw AAT 3kw
WXAX(FM) Elkhart, Ind. chg. Ant. type AAT 195 ft. ERP 50kw 104.7
WBZ-FM Boston, Mass. chg. ant. type AAT 760 ft. ERP 18kw 106.7
KINE-FM Kingsville, Tex. chg. Xr/ant AAT 130 ft. ERP 3kw 97.7
WYFI(FM) Norfolk, Va. chg. XR/studio loc. AAT 205 ft. ERP 50kw 99.7
KIRO-FM Seattle, Wash. chg. XR/ant. AAT 730 ft ERP 100kw 100.7

CALL LETTER CHANGES

WIAE(FM) WLVH Inc. gtd WLVH Hartford, Conn. ^{ON} WMUN Muncie, Ind. gtd WLBC-FM
 WJBK-FM Detroit, Mich. gtd. WDEE-FM WKYN-FM Santurce, P.R. gtd WQBS-FM
 WSWM(FM) East Lansing, Mich. Panax Corp. gtd. WFMK(FM)
 WFLT(FM) Franklin, Tenn. Harpeth Valley Broadcasting Corp. gtd WIZO-FM
 WXYW(FM) Suffolk, Va. gtd. WFOG(FM) ^{ON} WRVF River Falls, Wis. gtd WEVR-FM
 WBCM(FM) Baraboo, Wis. gtd. WLVE(FM) K
 WFBH(FM) Chicago, Illinois gtd. WWEL(FM) ^{ON}

CALL LETTER ACTIONS

Scope Reading/Be Co. Truckee, Calif. gtd KNLT(FM) 101.7
 George W. Yasell Peru, Ill. gtd. WGSY(FM) 100.1
 Howe Military School Howe, Ind. gtd WHWE(FM) 89.7
 Red Carpet City Be Corp. Vicksburg, Miss. gtd WKYV-FM 106.7
 Port Jarvis BC Inc. Port Jarvis, NY gtd WDLC-FM 96.7
 Pacifica Foundation, Houston, Tex gtd KPFT(FM) 90.1 47kw

CALL LETTER APPLICATIONS

Residence Assoc. Be Service, Inc. Ames, Iowa req KPGY(FM) 91.9 10w
 Christensen Be Co. Humboldt, Iowa req KHFT(FM)
 Prestonburg Comm. College Prestonburg, Ky req WUKP(FM) 89.1 10w
 No. Carolina Central Be Inc. Dunn, No. Carolina req WQTI 103.1 3kw
 Edw. Henry Schultz, Sparks, Nev. req KFON(FM) 98.3 3kw
 Griffith Be Co., Lynchburg, Va. req WLLL-FM 98.3 3kw
 KBGN-FM Caldwell, ID req. KBXL-FM WIDS-FM Jacksonville, Ill. req WFAI(FM)
 WOTT-FM Watertown, N Y req WNCQ(FM) KWFR-FM San Angelo, TX req KXY(FM)
 KCOR-FM San Antonio, TX req KFFM(FM) WCLO-FM Janesville, WI req WJVL(FM)
 WWKS(FM) Macomb, Ill. req WIUM(FM) KWPC-FM Muscatine, Iowa req KFMH(FM)

APPLICATIONS APPLIED FOR OR REQUESTED

Rogers, Ark....KAMO Inc. 94.3mc 2.8kw 312' AAT
 Heber Springs, Ark...Newport Be Co. 96.7 3kw -146' AAT (KAWW-AM sister)
 Donaldsonville, La...104.9 3kw Soul Be Co. 300' AAT (WSLG-AM sister)
 New Orleans, La.....Bd. of Sup. LSU 89.9 TPO 10w
 White Castle, La.....Shedd-Agard Be Ind. 104.9 3kw 146.45' AAT
 Cupertino, Calif.....Assurance Sciences Found., Inc. 91.5 TPO 10w
 Rochelle, Illinois...John V. Nink Sr. 102.3 3kw 300' AAT
 Rochester, Indiana...Fidelity Be Inc. 92.1 3kw 101' AAT (Wha happen to WRIO gtd)
 Winona, Minnesota....KAGE Inc. 95.3 1kw 486' AAT (KAGE-AM sister)
 Eagle River, Wisc....Eagle River Be Inc. 94.3 3kw 202' AAT (WERL-AM sister)

INITIAL DECISIONS

Pleasantville, NJ WMID Inc. 99.3 3kw 290' AAT
 San Antonio, Tex. denied FM grants (Really shouldn't have been here. Sorry)
 Vero Beach, Fla Seaborn J. Fredericks 93.5 3kw 137' AAT

OTHER GRANTS FROM OTHER SOURCES

Crockett, Texas.....92.7 3kw	Pine Bluff, Ark.....94.9 25kw
Indianapolis, Ind.....91.1 10w	Cincinnati, Ohio.....91.7 10w
Corinth, Miss.....90.5 10w	DeWitt, Arkansas.....96.7 3kw
Medford, Oregon.....93.7 18.4kw	Kingville, Texas.....91.9 10w req KTAI
Hastings, Nebraska....88.1 10w	Miami, Florida.....107.5 100kw
Lincoln, Nebraska....90.3 10w	Wingate, N.C.....89.1 5.65kw
International Falls, Mn91.5 10w req KICC	WYMS Milwaukee, Wis....89.9 .24kw
Aberdeen, S. D.....90.1 10w	
WCBU Peoria, Ill.....88.3 10w	
Aspen, Colorado.....97.7 480w	
KWMR Cedar Rapids, Ia.88.9 10w	
KKCA Fulton, Mo.....97.7 3kw	
Versailles, Ky.....100.9 3kw	
Middleton, Wisc.....106.3 3kw	
Livingston, Texas.....92.1 3kw	
WUAZ Henderson, Ky....103.1 3kw	

AND AGAIN, THANKS TO GARY OLSON FOR HIS
 HELP IN SUPPLYING ME WITH THE INFO. IT
 has been fun just for this one time, and
 I hope you will overlook my errors on a
 first time basis. Congratulations to
 the new editor, as he takes over this
 part of VUD.

3-11 TECH-NOTES

BOB'S TECK NOTES

Bob Cooper, Jr.
6221 Norman Rd.
Oklahoma City, Ok. 73122

May 1970

TRCPC DX

Page One

Of all the forms that DX reception takes, tropo (short for tropospheric) is the most common.

Tropo DX itself takes many forms, because in truth there are many changes or conditions which can exist in our lower atmosphere to create tropo DX.

The most common form of tropo is the early morning variety; virtually any morning of the year, when there are no heavy storm conditions in your area, you can spin the dials between 6 and 8 AM and notice that VHF and UHF signals 150-300 miles away are fairly strong (ie. stronger than normal). This is the sun-up tropo.

It should not surprise you to learn that there is also a sun-down tropo as well, although less pronounced than the sun-up version. This occurs just ahead of, during and just after sun-down in your area; again, provided there are no heavy (general) stormy conditions around when the sun goes down.

Throughout the year, but more particularly in mid-summer and again in mid-winter, there is fog tropo; long range tropo DX associated with heavy and general (over a wide area) fog conditions.

In the spring, particularly in the southern areas of the USA, there is moisture tropo, usually associated with a slow moving warm and moist weather front that germinates in the Gulf of Mexico and moves slowly north by northeast into the southern tier of states.

In the late summer and fall there is high-pressure tropo; associated with large to very large, stable, high pressure weather areas that form over the northern mid-west and stretch into the upper reaches of the east coast; and just sit there. The longer they sit there, undisturbed by other more menacing weather fronts, their chances improve daily to produce some really spectacular long-long range tropo.

And throughout the year, but most commonly in spring and fall, there are weather front tropo conditions, with tropo DX occurring just ahead of, just behind, or on the immediate both sides of a strong weather front. The more intense the front (ie. change in weather from one side of the front to the other side of the front), the straighter the front, the more intense the tropo DX it produces.

In TECK NOTES this month let's look at what causes tropo DX, how to detect and predict that it is coming, and, explode a few myths that have built up over the years as to "where the action is...".

SUN-UP TROPO

Sun-up tropo depends on just one thing; the sun coming up! We can assume the sun will come up, because it always has in the past. However, the earth's surface has to see the sun come up to make sun-up tropo

work. Now by "the earth's surface", we mean the lower atmosphere, within 2,000 feet of the ground surface.

If the sky is virtually clear (no or only scattered overcast), the sun's rays will begin to heat up the earth's surface in the morning. This heated air will rise, displacing cooler night-time air that has settled during the night. During the time it takes the ground level air to heat up and rise UP into the lower atmosphere, an inversion layer forms between the newly heated ground level air and the cooler air aloft. Inside this inversion or boundary level where warm air and cool air meet, VHF and UHF signals are trapped and carried beyond the horizon out to around 300 miles. This condition starts down low close to the ground (where the warm air first forms into a thin layer), and moves upward at some rate approximating 1,000 to 2,000 feet per hour. When the inversion boundary rises to above 2,000 feet (it continues to rise slowly during the day, reaching a peak height just after local noon, sun time), it is too high to "trap" VHF-UHF earth bound signals and our sun-up tropo disappears.

There is one important variation to this daily sequence, and this occurs when there is fairly high levels of moisture in a thin non-violent layer over the earth. If, during the night, a low level cloud bank forms at some elevation from 250 to 2,000 feet above ground (this occurs quite often locally over a several hundred square mile area ... here we are referring to this affecting a region of several thousand square miles), the early morning sun acts like a catalyst on the thin layer of moisture laden clouds. The cloud layer shields the earth from the sun's rays, and the early morning sun-up tropo warming begins not at earth's surface level, but at the top of the thin cloud layer. The sun warms up the air just above the cloud layer, and the warm air from the top of the cloud layer rises. This creates an inversion layer or level on both sides of the cloud layer. The warm air rising creates an inversion (or trapping action for VHF-UHF signals) above the thin cloud bank, while below the cloud bank, the still night-time cool air (shielded from the sun) forms a second inversion level at the base of or within the thin cloud layer. Of the two inversion levels, the bottom one is always the strongest because it has moisture present also.

This type of early morning condition brings in two forms of interesting conditions; the usual 100-300 mile range reception (from the top inversion level) and 250-600 mile (plus) reception from the lower inversion level. The two inversion levels may not dissipate at the same rate, and many times the 100-300 mile range reception may quit while the 250-600 mile reception hangs on. This is because the temperature inversion above the clouds may expand to above 2,000-2,500 feet (above ground) before the sun eventually breaks up the thin cloud layer below, thereby destroying the lower inversion level as well.

This type of thin cloud cover usually catches the weather people napping (typically they do not forecast the night before because they can seldom predict it). If you go to bed at night with the skies mostly clear and no weather fronts forecast, but awaken to a low overcast that local weathermen (now) forecast will "burn off by 10 AM to noon.", head for the dials because DX is up!

This latter form of 'double inversion' early morning tropo DX is entirely dependent upon the continued existence of the thin cloud layer. As soon as it begins to break up (ie. holes form and the sun starts to peak thru), the conditions will go down hill rapidly. The area affected by this condition will also depend upon what portion of your state and surrounding states are covered by this thin cloud layer. You will enjoy tropo DX reception only for as long as the cloud layer lasts and only from those areas that are covered by the cloud layer. Typically, this sort of thing begins around 6-7 in the morning (depending upon what time the sun comes up) and folds up by 9-10. It is much more common than we suspect!

SUN-DOWN TROPO

Sun-down tropo is just the opposite of sun-up tropo. As the sun goes down, cooler air from aloft begins to settle down to the earth's surface. If a boundary is formed (inversion level) between the cooler air aloft and the warmer air below, tropo conditions improve. However the cooler air settles much less evenly than the sun-up warm air rises. Cooler air drops in pockets, and what we are after is not pockets of cool air settling but an entire layer of cool air settling.

Sun-down tropo depends on an almost total lack of wind (wind creates pockets) and a stable high pressure air mass. Therefore sun-down tropo tends to be less exciting than sun-up tropo, because it does not occur as often over as wide areas as sun-up tropo.

If, during the period one hour before to three hours after sun down a thin cloud layer forms (such as with sun-up tropo plus clouds), and it covers a large region (several states or so) evenly, with no storms mixed into the area, we can expect the same type of sun-down tropo plus cloud layer inversion as with sun-up tropo. This is particularly exciting if the cooler air is above the clouds, while the warm air stays trapped below the clouds, thereby slowing down the evening cooling off period for the earth's surface. If the weather man forecasts "warmer weather tonight with increased humidity and a thin layer of low overcast that will dissipate by morning", stay with the dials because DX is coming!

FOG TROPO

Not all foggy conditions produce DX. Fog is the result of too much moisture in the lower atmosphere, and no place for the moisture to go!

Fog tropo, like the thin-cloud level tropo mentioned for sun-up and sun-down tropo, requires a large, stable, air mass. If the air mass that holds the fog is ripped apart by thunderstorms and generally confused air circulation patterns, no inversion level can form.

If the fog forms behind (ie. usually to the north or NW of) a slow moving or stagnant high pressure front from the north, the front shuts out any opportunity for more disruptive southern air to mess up the Fog Tropo. The fog alone is not the key to the formation of fog tropo; a distinct boundary between the fog laden air and clearer (usually cooler) air aloft is also required. If the weather reports suggest that

Heavy ground fog is forming, over a large area of your state and adjacent states, but that the fog will probably burn off during the day but return at night, this suggest the fog layer, while thick, is quite thin and does not extend much higher than 500 feet above ground. This is excellent because the boundary between the thick fog (ie. the top of the fog) and the clear air above is where the inversion level will form.

Again, local fog is of little benefit to DX; fog associated with stormy weather is of no value. And, fog associated with a generally overcast condition (ie. fog low, overcast above the fog) is of no value, unless; (1) the fog is seperated from the overcast by several thousand vertical feet of clear air, or, (2) the fog and the overcast meet directly (no clear air between) with the overcast clearing before 2,000 feet - with the air clear above 2,00-2,500 feet.

Keep in mind that the inversion layer forms where there is a boundary between two sharply different air masses; ie. a warm mass and a cold mass, a dry mass, and a wet mass. And for our general purposes, if this boundary point sets up at some elevation from 2,500 feet above ground and ground, we are in chöver!

MOISTURE TRCPC

Moisture tropo is a cross between fog tropo and our early morning thin-cloud layer tropo.

Moisture that springs out of the Gulf of Mexico and pours north or northeast creates medium to low level cloud layers. If there is no general storm associated with this warm air flow, overcast forms over the affected regions.

The moisture sits down in the Gulf at all times, but flows north only when low pressure areas form over the land drawing the warm moist air into the low pressure regions. If this happens without other catalyst agents which would normally cause squall lines and thunderstorms, then at or just before dusk the southerly winds carrying the warm moist air north will subside leaving a stagnant warm air mass aloft, just off the earth's surface. This forms a cloud bank, and from there the inversion level begins to form.

The clue here is warm southerly winds during the day, with the winds going down around sun-down and a layer of warm, moist clouds forming in the wake of no or greatly reduced winds.

HIGH PRESSURE TRCPC

If a high pressure region flows into the mid-west and stagnates, for several days, the weather conditions at ground level (under 2,500 feet) gradually work their way upward so that at elevations of 6,000 to 10,000 feet the weather is almost the same as down on the ground.

The longer the high pressure area (usually typified by moderately warm days, light winds, virtually clear skies or no clouds under 15,000 feet) stays put, the higher and higher the earth-surface conditions build, day by day. At some point above 4-,5000 feet, where the air is

thinner than at ground level, and where the day to day sun-up temperature inversion levels normally rise to, a permanent inversion level forms. Because of its height, it is capable of producing very long tropo reception spanning distances of up to 1,200 (plus) miles of occasion.

This happens a few times each year, and typically local conditions (100-300 miles) may actually be below average while stations 700 or more miles away are strong and clear. The late summer and early fall is the best period for this. Conditions often last all day, for several days, with only minor differences between daytime and nighttime signal levels.

WEATHER FRONT TROPO

Keeping in mind that inversion levels form where there is a sudden change between two surface air masses (surface being ground level up to 2,500 feet), a strong cold front moving south or SE out of Canada into a region where a warm air mass exists will create an inversion line right along the front itself. If the front extends from Chicago to Oklahoma City, stations along the front line from one end to the other come through.

The front should be a slow mover. It should be strong, and be straight. (Ie., it should not show as a crooked line on the weather map ... VHF/UHF signals don't follow crooked lines, they go as the crow flies, along the straightened route between two points.) The more drastic the change in temperatures on both sides of the front, the stronger the inversion level (Ie. 70 degrees ahead of the front, 40 degrees behind it.). And there should be no general heavy precipitation associated with the front. Scattered showers along the front are usually no problem, but heavy rain or snow are taboo because the heavy weather breaks up the inversion level before it can form.

Not all fronts produce these changes, in fact only around 10 % do. And the conditions may last only a few hours, as long as it takes for the front to move through your area. Remember - shoot along the front for DX; tropo will come just ahead of, during and just after the front.

WHERE THE ACTION IS ...

During the past year here in Oklahoma, I have carefully measured the relative distances and signal levels produced by tropo conditions of all types, as discussed here.

With sun-up and sun-down tropo, VHF channels 7-13 are most often the strongest affected signals, followed by VHF 2-6 and FM. UHF is affected by sun-up but seldom sun down DX.

With all other forms of tropo DX, including sun-up plus thin cloud layer tropo, the UHF signals are the strongest and come over the greatest distances. In 11 months of observations, the UHF signals have beaten the best HB VHF signals by an average of 20% more miles, FM by 25% more miles, and LB VHF by 40 % more miles.

In short, most of the time, UHF is where the action is!

MAY 1970

David Janowiak
3661 So. 46 St.
Greenfield, Wisc.
53220

TECHNICAL

ORNER

CHANNEL ONE IN THE U.S.

A few months ago, a letter written by WTFDXer Dave Shapiro was forwarded to me from our man in Europe, Roger Bunney. (Roger also sent some interesting photos of European call slides that are most appreciated.) Dave asked about the European channel one and why we don't have a channel one in the U.S. So Roger tossed the question this way.

Well, to be honest, I don't really recall the circumstances enough to comment intelligently. VHF spectrum shifts in the early 1940's might have had something to do with it. I don't think a commercial channel one ever came on; maybe experimental stations did in the early days.

If any member has information about the history (if there is one) of our channel one, let me know and I'll include it in a future column.

With that bit of buck passing, the Q/A session that filled these pages for several months is concluded. With greater publishing involvement at HQ and the obvious heavy reporting season just around the corner, my time will be limited, so I will not predict what future T/C columns will contain. I've blown the dust off a partially completed article on preamps, but I don't know if it will be ready for next month.

MAGNOVOX TAC: GOOD FOR FLESH COLOR...BUT

In my article "What's New for DXers in TV, Audio, and Tape Equipment (August, 1969), the Magnovox TAC circuit was mentioned as a possibility in their 1970 TV receivers. TAC did indeed appear and was an apparent success.

Intent of TAC (totally automatic color) is to eliminate flesh-color shift due to changes from station-to-station, camera-to-camera, etc. Once preset to a particular flesh color, TAC keeps this flesh color.

To use TAC, the circuit is actuated (by pushbutton, I believe) and a knob adjusted until the flesh color you want is obtained. (Should be good for integrationists and segregationists alike.) What happens is that the two color circuits that affect flesh colors (yellow and red) are locked in under all conditions.

OK...for flesh colors. Enters, however, the rub. Not only do flesh colors remain fleshy as preset, but all other colors using the red and yellow circuits are similarly pulled toward a fleshy color! Of course, if this is disturbing, you can switch TAC off and be content with the usual color shift. Isn't progress wonderful?

COST CUTTING CATCHES ON WITH BBC

In May, the BBC will begin a trial test of a technique for transmitting a TV audio signal in pulse-code modulation within the video waveform. With this method, cost should be cut because of the single distribution cable and single radio frequency carrier.

Initially, a distribution link will be made between London, Birmingham, and Manchester. If the test is successful, this system will be extended to the entire BBC network between studio and final broadcast transmitter. (With pulse code modulation, the peak-to-peak amplitude range of the signal (audio in this case) is divided into a number of standard values, or codes.)

73's Dave

CENTRAL TV DX

Roger A. Brown
624 Evergreen
E. Lansing, MI
48823

April 1970

Next Deadline: April 18

FOR TV-DX REPORTERS IN WI, IL, IN, MI, OH, PA and ALL EASTERN CANADIAN PROVINCES.

Talk about a frustrating month! If the lack of reports and my observations are an indication of the overall quality and quantity of end-of-the-winter TV DX in these Northern parts, late February and early March will be easy to forget. Tropo conditions improved a bit late in the first week of March in Wisconsin and Michigan. Some auroral hash was noted here and in Milwaukee on 3-8. No luck at all with IDs though.

Writing about very little DX and poor conditions certainly isn't much fun! With snow still on the ground and in the air after the beginning of Spring---all we can do is wait---and watch. Let's take a look at a bad month:

Frank Wheeler, 6589 Wattsburg Rd., Erie, PA 16509 (EST)

2-17 Tr 0628 WTHI-10 Terre Haute, IN (441) 2-18 Tr 0615 WHTN-13 Huntington, WV
(NEW at 282)
2-18 Tr 0131 WLWI-13 Indianapolis, IN (359) 0700 WFBM-6 Indianapolis, IN
(359)

Also seen on 2-18 were WJAC-6, WFBG-10 and others not seen in some time. Totals here now 226.

Ferdie Dombronski, WTFDA Hq, Box 5001, Milwaukee, WI 53204 (CST)

3-5 Tr all eve WPBN-7 Traverse City, MI 3-8 MS? 0735 UN-ID IHTP, direction
WOOD-3 Grand Rapids, MI west looked like auroral hash
WZZM-13 Grand Rapids, MI but suspect long MS burst.
WWTW-9 Cadillac, MI Noticed hash on 2-3 several
plus South Bend, Rockford U's near times in A.M. (might have been
perfect, Peoria and Aurora U's in auroral E's. see below.RB)
also. First time latter seen in '70!

Roger Brown, 624 Evergreen Ave., E. Lansing, MI 48823 (EST)

3-5 Tr 0100 WJW-8 Cleveland (4445R180) 3-7 Tr 0030 WAUB-43 Lorain, OH
WLUK-11 Green Bay (3433R220) (4545R170)
WGN-9 Chicago (4445R180) WKBF-61 Cleveland
WLS-7 " (4445R180) (4545R180)
Better than average tropo. plus So Bend, Ft Wayne bet-
Very little better on UHF. ter than usual
So Bend in fairly well. 3-8 Au 0900- Lots of "hash" but no
1600 IDS noted as high as ch 7

The above are not unusual for this location but conditions have been so bad, that's the height of my DX during the period.

That's about it. Let's keep watching for something resembling a warm front!! A stationary low to the West and North of this location nearly always produces good spring tropo. Be sure to check the propagation report prepared by Bob Cooper. This is the beginning of a new season and lots of patience can produce very good results.

CENTRAL TV DX

624 Evergreen
E. Lansing, MI
48823

May 1970

Next Deadline: May 19

FOR TV-DX REPORTERS IN WI, IL, IN, MI, OH, PA and ALL EASTERN CANADIAN PROVINCES

We've proven it! The old cliché is right! A watched pot never does boil. Or, for TV-DX fiends a watched spring-summer season never occurs. Not yet anyway as our past month has been way, way off. Weather conditions were much more winter-like than those which, each year turn our thoughts to much more DX. Our snowfall during late March and early April set records, our low temperatures set more records and DXing conditions continue to be rotten.

Things did pick up during the second week of the month with reception of UHFers to 200 miles somewhat improved. That soon died though and we're still waiting and hoping. No one has reported Es as of this writing. There were weak Es over portions of the Southwest US late in the second week in April.

Only two reports graced the mail this month. Let's get at it.....

Charles A. Dobbins, 12851 Longacre, Detroit, MI 48227 (EST)

3-18 MS 0555 WLWC-4 Columbus, OH (166)	3-28 MS 0652 WTVN-6 Columbus, OH (166)
3-19 Tr 0544 WKYC-3 Cleveland, OH (110)	4-12 Tr 0540 WLWC-4 Columbus, OH
MS? 0608 Un-Id <u>Channel 9</u> . Not sure of propagation but appeared to be MS or AU. 20 sec burst.	0635 WJW-8 Cleveland, OH

(Thanks to Charles for this first report of his first TV-DX. Note Bill Heusmann's CCI column for other Un-Ids. Keep at it...you have a good start!)

William J. Draeb, Ellis St., RR 2, Kewaunee, WI 54216 (CST)

3-17 Tr 1932 WSNS-44 Chicago, IL (new)	4-12 Tr 1845 WUCM-19 University Cnt, MI
	WCMU-14 Mt. Pleasant, MI
4-11 Tr 2030 WKNX-25 Saginaw, MI	

Not much DX this month. WSNS appears to be slightly stronger in Kewaunee than WFLD-32. Have been looking for WXOW-19 but haven't seen it yet. Noted strange reception of WNEM-5 (Mich) on March 19. WFRV off w/xmtr trouble. WNEM seen with violent fading and ghosting. Looked like Es. (Good to hear from you Bill. Your report is the BEST indication I have of a bad month!)

Roger H. Brown, 624 Evergreen, E. Lansing, MI 48823 (EST)

4-16 Tr 2330 Best tropo since early February. No distance but good signals from So. Bend, Ft. Wayne, Toledo, etc. WUAB-43 Lorain in for two days, though weak. WFLD-32 in weakly on 4-18 in evening. Very little else during the period.

And that's about it. One note before closing. I'd like to know more about everyone's equipment and location. If your DXing with a small portable, in a hole with rabbit ears, your good DX is something other than the man with the 200 foot tower, the 80 element array and the Conrac. Both men have their own standards of good DX and NOBODY should feel "ashamed". Now then, next month let's hear from EVERYONE!!!
73, Best DX Rog Brown

WESTERN TV DX

May 1970

Dennis Park Smith
321 Santa Barbara St.
Santa Barbara, California
93101 U.S.A.

Deadlines: 12th of each month

There was a fair amount of tropo DX in many areas east of the Rockies in March, and signs are that it is picking up in April. There was only one Es opening noted, on 9 March, which may have resulted from the aftermath of even bigger news on the 8th, when two reporters in Texas and Oklahoma caught F2 skip from South America.

First, a report, overlooked by your editor, from:

Jerry Dee, 2426 West 7th, Waterloo, Iowa 50702

(Dec to mid-Feb) (Times CST)

This has been an unusual winter skip season. I used to go to the a.m. radio band in the winter, but I've logged more NEW TV stations in the winter the past two years than during the height of the Es season in June and July.

I had Es here on the nights of December 22, 23, 25, 28 and 30. And logged only one new station, KRTV 3 Great Falls, Montana. All openings occurred AFTER 9:30 PM. I'd never seen Es in February before, but I did the night of the 2nd. From 8:50 to 10:15 PM, I logged KPRC-2 Houston right through WMT-2, only 25 miles east!! Others seen: KIII 3, KGBT-4, WOAI-4, KRGV-5, KCEN-6, all Texas. Ranges were about 1000 mi.

I'm currently using a 1968 Magnavox 23-in. color consolette. Antennas: 2-bay Winegard Super Interceptor with preamp and RG-59u downlead; 10-ft. parabolic home-brew with stacked bow ties for UHF, working real well. All this mounted on a 70-ft. tower!

I've been doing a lot of MSing, with only one new in the last few months. Last winter, I logged 20 new ones via MS. The new one was WEWS 5 Cleveland, apx 550 mi, on Feb 9 at 6 AM. MS regulars every morning are: WMAR-2 MD, WCBS-2 NY, WTIC-3 CT (they steadfastly refuse to answer any verification requests I send), WTAR-3 VA, WSYR-3 NY. I see an RTMA resolution pattern on MS every morning at about 5:45 AM on ch 4, but so far is unidentified.

We have a new local as of Nov 8; KIIN-TV 12 Iowa City IA is on with apx 250 kW from 1449-ft. tower. They are seen rather well in Waterloo at 80 miles. They presently simulcast almost all KDIN-11 Des Moines programs; both are in Iowa Educational Broadcasting Network (operate Mon-Fri 8AM-Midn, Sat 8AM-Noon, Sun 4PM-Midn). 73.

(Apologies for my getting your interesting report in so late, Jerry. This has been a productive winter for Es. dps)

Mike Northam, Box 1122, Lake Grove, Oregon 97034

(Times PST)

On about Feb 25, new KVDO 3 Salem, Oregon came on air, and is seen here with a fair signal at 45 mi. No network; sked 1500-2300; old movies. Bullseye TP run irregularly. 73. (Another Es possibility; thanks for new-logging report, Mike. dps)

Bill Heusmann, 2804 Brattleboro, Des Moines, Iowa 50311 (10 Nov- 7 Apr) (Times CST)

A slight perking up of tropo, on the heels of a warming trend, has stirred with some faint memories of something called TV-DX. After one last fling of tropo here in November, DX has been practically nonexistent, with nearby stations logged only on 5 dates since last report. Only seemingly consistent one in is KGLO-3 Mason City.

One new logging for Des Moines: KIIN-12 Iowa City, w/RCA tp at 0023 on Mar 5. With WHO-13 off, they were able to skip thru KDIN-11 slop and were quite good when KDIN went off a minute before them.

This morning (Apr 7), midnight and after, WDAF-4 MO and WHBF-4 IL noted poorly, KGLO-3 IA very good and KWWL-7 IA very good, testing.

Well, with Spring slowly creeping in, can skip be far behind? (It probably will!) My missing ch 2 has been traced to broken-off tuner coils which I wasn't about to attempt soldering back. I must see what I can do about arranging a temporary trade with someone: a TV that tunes ch 2 for a Sony which pulls in the locals only too well (on any channel you like, or so it seems!). 73.

(Thanks for latest news, Bill. Hope things pick up there. dps)

Pat Dyer, 327 Solar Drive, San Antonio, Texas 78227

(March) (Times CST)

Receiver: 1968 RCA color model GJ721W. Antennas: Wards 11-el high-low VHF, 15 feet up, fix-aimed south-southeast; UHF indoor loop.

<u>3</u> Tr 0000 KGNS- 8 Laredo, Texas	<u>10</u> (Tr) 0050 WFAA- 8 Dallas TX
<u>5</u> Tr 0000 KGNS- 8 Laredo TX	<u>17</u> Tr 2359 KHOU-11 Houston TX
<u>6</u> Tr 0002 KHFI-42 Austin TX	2359 KGNS- 8 Laredo TX
0005 KZTV 10 Corpus Christi TX	<u>18</u> Tr 0005 KWTX-10 Waco TX
0006 KRGV- 5 Weslaco TX	0005 KTRK-13 Houston TX
0010 unid.10-	0007 KRGV- 5 Weslaco TX
<u>8</u> F2!1745 unid. 2 Several ch-2 signals,	0010 KGBT- 4 Harlingen TX
probably Puerto Rico	2205 unid.10 Mexico (XEW net)
and Venezuela.	<u>24</u> Tr 0030 KRGV- 5 Weslaco TX
<u>10</u> Tr 0005 KRGV- 5 Weslaco TX	<u>30</u> Tr 2158 unid.11 Mexico (XEW net)
0010 XH?? 10 Mexico	2230 unid. 7 Mexico
0015 KGBT- 4 Harlingen TX	<u>31</u> Tr 0014 KGBT- 4 Harlingen TX
0025 unid. 8 Mexico	0020 unid. 4 Mexico (XEW net)

The big thing of this month was the F2 opening on March 8. This came in the midst of a tremendous amount of F2 backscatter on 50 MHz. Suddenly near 1738 CST 50 MHz opened with direct F2 into Puerto Rico. I only checked the TV once at 1745, and it was probably open before then. I didn't hang around for an ID as there looked like at least four clogging Ch 2. Ch 3 was nil since the MUF didn't reach it. By 1800 50-MHz direct F2 was out and so was Ch 2. The TV F2 was probably from Puerto Rico and Venezuela with Colombia and Panama possible too. It is very unlikely that we'll be treated to such an opening again this cycle or the next few either.

Tropo is the other big news here. The large amount of Mexico stuff I get really bugs me since most of it is unid. The stations simply put on "XEW-TV Canal 2" and pull the switch. I suspect my Ch 10 is Monterrey, but as for 7, 11, and 4, none on the VUD list of last year seem close enough for tropo nor do they have XEW net relay listed. Anybody have suggestions on my unids?

I hope the Es season has gotten going good by the time this is in print. March, as always, is the low month for it. 73.

(Actually, US and Canada are among exceptions with separate station IDs; most countries identify only networks mostly. But, Mexico's inaccurate lists don't help. For more F2 DX, see the next report. dps)

Bob Cooper, Jr., 6221 Norman Road, Oklahoma City, Oklahoma 73122 (8 Mar- 7 Apr) (CST)

A rather unusual month here. Hopefully others in south and southwest noticed the 'unusual reception' late in afternoon on March 8. I had counted on a 'quiet' March to give time to complete a completely cross-referenced index system to every known TV station within 3000 miles of here and all FM stations within 1600 miles. The usual books (Jones Logs, Broadcasting Annual, etc.) are so filled with errors that I find them too unreliable for use when DX is 'in' and time is important. I'm also starting work on the 1970 version of my antenna system which when completed will be 'bigger and better' than the '69 version!

Mar 8 tropo bending 0835, WJYJ 14, 501 mi. Fair signals until 1050 fade-out. No VHF or FM beyond 300 miles.

1616, auroral signals noted chs 2 & 3 (& FM with antennas N and NNE.

1620: this was F2! Very strong Spanish-speaking signal(s) on ch 2 from SE & SSE. Video very badly garbled from multipath reflections, audio mostly clear and good copy. Signals peaked between 1627 & 1635 the first time, dipped down around 1700, and began back up about 1720 peaking again between 1749 & 1752. All faded around 1756.

The very strong geo-magnetic storm that broke up around this time (started Mar 6) produced the F2-layer skip into northern South America and southern Central America for me. No signs of any signals on ch 3.

An exchange of letters and audio tapes with Clarence Maylett, CE at TV Nacional (Tevedos) in Panama verifies his station was one seen (2250 mi) and another was ch 2 Caracas, Venezuela (2450 mi). Still tentative are two others in the same region.

Unfortunately, the ABC Central-American network was televising Caribbean games at this time and virtually every ch 2 in the area was tied in on this. I had two periods of commercial breaks including some local announcements, and on these breaks rest the identification of the stations seen here.

May 1970

Mar 9 Es, 0834 KBOI-2 Boise, very good; 0855 KLEW-3 Lewiston, Idaho, good; 0927 KUTV 2 Salt Lake City, very good, still in at 0955 when I had to leave.

Mar 10 MS, 0604 WBAY-2 Green Bay, 0618 WMT-2 Cedar Rapids, both test patterns.

Mar 14 sat on ch 3 for random MS bursts. Lots of pings, few bursts; the people who pegged this date as above average for random MS should lose sleep as I did—for naught!

Mar 20 0520-0630, Coma Bernices minor shower a dud; MS count lower than typical below-average morning.

Mar 23 0030-0130, sitting on ch 2 for random MS bursts, noted burst count up considerably above average. WMAR-2 Baltimore TP on for what I assume is not a daily test period. WMAR- logged 0050 to 0120 on many TP bursts.

Mar 24 0515, Ch 3: does anyone know who runs a slide that has white 'grid outline' of world against black background, with title "FIRST REPORT - NEWS", between 0513 and 0517 or so? Apparently slide shown while news is read (audio only). Seen many mornings, weekdays. (This is by MS, right, Bob? dps)

Apr 5 2300, with weather finally clearing, 300-mi summer-type regular morning tropo began to return for summer season. Great to have the dials filled in the late evening and morning—it's going to be a great summer! 73.

(There you have it, friends—F2 skip on ch 2. The summer tropospheric DX seems to be coming up as of early April, according to this and the next report. dps)

Don Ruland, 3219 Burnside Drive, San Antonio, Texas 78209 (Early April) (Times CST)

Hi! My first TV-DX report since 1960 and the AIPA in my old Southern DX column! Hopefully not the last. Receiver is 1968 Zenith color with rabbit ears. April, tropo:
 10 Tr 0530 KLFY-10 Lafayette, Louisiana (10) (Tr) - KALB- 5 Alexandria LA
 - WJTV 12 Jackson, Mississippi - WAFB- 9 Baton Rouge LA
 - KSLA-12 Shreveport LA 0730 KBTX- 3 Bryan TX
 - KHOU-11 Houston, Texas - KTVE 10 El Dorado, Arkansas
 to KTRK 13 Houston - KNOE- 8 Monroe LA
 - KPRC- 2 Houston

Also heard unID FM from Pensacola, Florida on rabbit ears (800 mi) on Panasonic RF-5000 receiver during same tropo opening.

(Welcome aboard again, Don; good to hear from you. Good DX there—all you need is an outdoor antenna and UHF gear if you do that well on rabbit ears. dps)

Leslie J. Prus, 1615 Pierre Street, Manhattan, Kansas 66502 (Dec-late Feb) (CST ?)

Dec	Time		Apex Mi.			
23	Es	0400	WCBS- 2 New York NY	1200	(23) Es	1730 WSYR- 3 Syracuse, New York 1100
		0430	KYW - 3 Philadelphia PA	1150		1900 WTIC- 3 Hartford, Conn. 1250
		0500	KDKA- 2 Pittsburgh, Penn.	900	24	Es 1630 WGR - 2 Buffalo NY 950
		0500	WRC - 4 Washington DC	1050		1650 WCAX- 3 Burlington VT 1250
		0545	WRAL- 5 Raleigh NC	1000		1730 CBFT 2 Montreal, Quebec 1250
		0600	WUSN- 2 Charleston SC	1000	Jan	
		0600	WFBC- 4 Greenville SC	800	6	Es 1815 XHCV- 3 Coatzacoalcas, Ver. 1450
		0630	WFMY- 2 Greensboro NC	950	11	Tr 2300 KPLR-11 St. Louis MO 340
		0700	WSAV- 3 Savannah, Georgia	1000	12	Tr 0730 KPTS 8 Wichita, Kansas 100
		0700	WBTW 3 Charlotte NC	900		(new on air--educ. net)
		1600	CKVR- 3 Barrie, Ontario	950		0900 KOTV 6 Tulsa, Oklahoma 220
		1700	WPSX 3 Clearfield PA	1000		0930 KWTW 9 Oklahoma City OK 260

(Glad to have your first report, Les--continued good DXing this year. dps)

Dennis Smith—around here in Santa Barbara, southern California coastal tropo came up quite well after 20 March in stable conditions but died down again in early April with more unsettled weather. Other than this, no other occasions have permitted DX checking.

Best of DX to all

Dennis

EASTERN TV DX

Dave Pomeroy.
3556 Rocky Hill Terrace
Lexington, Kentucky 40503

Deadline: May 20

It looks as if the long winter DX slack period is finally coming to an end. I've seen a few poor tropo openings here and the number of reporters this month has doubled (there are two instead of one). Since both are from New York, this might be called the New York DX column instead of the Eastern TV-DX column. Will be glad to publish all of the reports I can get from the Empire State but would really like to hear from some other locations also. The reports:

Bob Seybold, Bennett Road, Dunkirk, New York (EST)

2-8 Tr	WDHO-24 Toledo, Ohio	4-18 Tr	Cleveland, Akron, Youngs-
	WGTE-30 Toledo, Ohio		town UHF in clear
	WKBD-50 Detroit, Mich.	4-19	WNEP-16 Scranton, Pa.
	WTVS-56 Detroit, Mich.		WJAN-17 Canton, Ohio
	WXON-62 Detroit, Mich.		WHIZ-18 Zanesville, Ohio
3-14	WDHO-24 Toledo, Ohio		WDAU-22 Scranton, Pa.
	WGTE-30 Toledo, Ohio		WERE-28 Wilkes-Barre, Pa.
	WTVS-56 Detroit, Mich.		WBJA-34 Binghamton, N.Y.
	WXON-62 Detroit, Mich.		WSYE-18 Elmira, New York
	WKBD-50 Detroit, Mich.		WENY-36 Elmira, New York
4-18	WTVS-56 Detroit, Mich.		WINR-40 Binghamton, N.Y.
	WXON-62 Detroit, Mich.		WKBD-50 Detroit, Mich.
	WKBD-50 Detroit, Mich.		WXON-62 Detroit, Mich.

(Received report in plenty of time. Thanks for going to all the trouble. Appreciate your support. dp)

Jerry Pulice, 143 Gibson Ave., Staten Island, New York 10308 (EST)

2-17 Tr	2100 WNEP-16 Scranton, PA	4-1 Tr	0630 WTTG-5 Washington, DC
	WDAU-22 Scranton, PA		WTOP-9 Washington, DC
	WERE-28 Wilkes-Barre		WBAL-11 Baltimore, MD
2-18	2130 WTIC-3 Hartford, CN		WJZ-13 Baltimore, MD
	WJAR-10 Prov., RI	4-8	0750 WUHY-35 Philadelphia
	WPRI-12 Prov., RI		(rarely logged)
3-8 Au	1600 2-6 UNID, strong	(Jerry reports CM traps installed in	
	1630 aurora up to ch. 13	January. Chs. 3, 6, 8, 10, 12 now open	
	1700 high band out	in all directions. W-ME was block-	
	1930 all aurora gone	ed by NYC stations. dp)	

Dave Pomeroy, 3556 Rocky Hill Terr., Lexington, Kentucky 40503 (EST)

4-16 Tr	0800 WSJK-2 Sneedville, TN	4-17 Tr	0720 WCYB-5 Bristol, VA
4-17	0650 WTVW-7 Evansville, IN		0800 WIUL-33 Huntington, WV
	0720 WHIS-6 Bluefield, WV		(WIUL-33 like local with TP)

As you can see, the tropo opening seen here is nothing to brag about. However, in view of the lack of anything else in the past couple of months it is somewhat encouraging. A check of my log book for last year shows the first skip (KTWO-2) coming on the 25th of May so it shouldn't be too long before the skip season is here if last year is any indication.

I might add that normal reception is somewhat different at my new location although it is only two blocks from the old. Reception north (Cincinnati) is worse; south and west are better.



Editor: Roger W. Winsor
718 N. Fremont Road
Valparaiso, Indiana
46383

Deadline 10th of the month.

Hank Holbrook 7211 Chestnut Street Chevy Chase, Maryland 20015

Writing this report on March 22, but there's no telling when it will flow through the mails with the present postal situation. Three stations on FM have been logged and reported so far in March. WFOG ex WXYW 92.9 Suffolk, Va. 3/14/70 4:59-5:32 PM EST, this station usually heard well. 3/20 WTID 104.5 Norfolk, Va. brand new station 8:11-8:40 PM received well. 3/21 WLWH ex WLAF 93.7 Hartford, Conn. 3:29-4:01 AM fairly good. WLWH appears to be 24 hours with all Spanish programming occasional IDs in English announcing "Your Spanish voice of Connecticut".

Bob Hawkins 1515 Marlowe Avenue Cincinnati, Ohio 45214 EST

Hi everyone. Just got a new tuner and have really a valued interest in FM DXing more now. I am 17, a Junior in HS and have about 140 stations logged and taped IDs. My setup is a Finco FM-4G yagi up about 45' and my tuner is a Heath AJ-15. Many things are yet to be IDed, so far, but I'll be coming along. Logged the following goodies: 12/23 1630 KVSF 97.9 Rapid City, SD @1014 mi. 2/17/70 0010 logged WUOT Knoxville, Tenn. 91.9; WPAD 96.9 Paducah, Ky @0752. Now for the real distant goodies. WFBG Altoona, Pa. @1932 (336), also WFCI Franklin, Ind. 10 watts @2348. 2/18 brought 4 more 10 watters WBST Muncie @0000 (78); WUSO Springfield, Ohio @0030, WMCO New Concord, Ohio @0118 (170) and now the biggie WBWC Berea, Ohio 88.3 @0013 (208). Tropes were great on 2/16-18. Also my best trop distance was logged 2/18 WGMR Tyrone, Pa. 101.1 @0800 (346). Glad to be a part of your group. I'll try to get at least a couple of new members. I am a ham (W4B VZY) and work at WAKW. We always appreciate reception reports and will verify all who receive us at 93.3 0600-2300 EST daily. See you all later and gud DX and 73 to all! (Welcome Bob, and I look forward to many more reports from you. Perhaps you could arrange a text this August of WAKW during Perseid Meteor Shower. You just might get some good reports from fellow members. RWW)

Bob Seybold Bennett Road Dunkirk, New York

Have a small report as little winter FM DXing done, but do have a little. 2/6/70 WAUR 101.9 Morgantown, WV, WHOT 101.1 Campbell, Ohio, WCNE 88.7 Batavia, Ohio and WIAN 96.9 Lancaster, Pa. all new and a few other Ohio, Michigan stations up to 350 miles. Totals now 325 with 4 new. Should have more next report.

Bruce Elvins 522 North 12 $\frac{1}{2}$ Avenue East Duluth, MN 55805

The aurora has provided the biggest DX excitement here lately. On 3/8 the Northern Lights brought in unusual FM sounds during the entire daytime period, fading out after sunset. KMFL 102.9 Marshall, Mo. was the new station added to my loggings for #861, while KMBR 99.7 Kansas City, Mo. was the strongest signal from that area. On the morning of April 7 after midnight aurora brought in Michigan and Illinois, with WZZM 95.7 re-hrd. Other new stations here WNRR 99.3 Neenah-Menasha, Wis; WJON-FM 101.7 St. Cloud, Minn.; WGGL 91.1 Houghton, Mich., which increased its power in January. Locally WWJC-FM has been sold and now is licensed to Duluth instead of Superior, Wis with the call letters expected to change soon. KUMD 89.1 now signs on at noon instead of 4PM and WWSU 91.3 s/off @0300 instead of 12:15AM (Good tip Bruce. A possibility here in midwest now RWW) WWJC-FM temporarily operates from 2-10PM. WDTR and WCAL-FM have finally verified for me. Mike Bugaj's "CKBY 105.3" might be a new station in Ottawa-Hull, Ont; Trois Rivières Que.; or Charlottetown, P.E.I. These are three cities allocated to 105.3, so if he has a rotatable antenna, an antenna bearing should tell which of the three possible he is receiving. I also believe Al Kopec's listing of CKCH as 94.9 is in error. Ottawa-Hull is allocated to 94.7, not 94.9. (Tnx for the comments Bru. RWW)

Tom Mann 7704 49th Avenue Kenosha, Wisconsin 53140 EST

WWEL 93.9 "Stereo 94" in Chicago will have their transmitter moved to the John Hancock Building and raise their ERP. I don't know how much though. Stay tuned for details on WWEL. This station plays soft music 24 hours a day. WUWM 89.7 located in the Fine Arts Building of the UWM plans to move their transmitter in the near future for a greater coverage area. WTOS 103.7 631 N. Mayfair Road, Wauwatosa, Wis. 53226 plans to boost their ERP to 100,000 watts also in the future. Date is not known at this time. For more details, just sit down and write to the above QTH. ABC news is heard 15 minutes past the hour. Progressive rock mx is played. (Tom, I have totally edited out all TV information you have sent, as it should be sent to the TV editor. Tnx for the info on WTOS, as I would really like to log them, but have a strong 103.5 WKFM to contend with. RWW)

Bill Bens 5575 Spruce Wood Drive Cincinnati, Ohio 45239 EST

Hello again. I'm glad to see that Roger is still doing the FM column. Keep up the good work! (Tnx-RWW) Lately I've been doing some experimenting with a vertical polarized yagi (Channel Master Stereo Probe 6) and I've been getting some very interesting results. A typical example of the advantage of a VP yagi are WHBM Xenia, Ohio and WBBY Westerville, Ohio both on 103.9, both NE of here, but WBBY is twice as far. With a HP yagi, Xenia is dominant of course, but with a VP yagi WBBY is dominant simply because they have VP. Apparently only about 30% of the stns around here are dual polarized, because the band sounds dead, except for those stations w/VP. However, this dead band should present ideal conditions and fantastic results during Es or aurora opening, as most of my semi-locals are extremely weak. With my VP yagi, those stations w/DP are the same strength as they were w/ the HP, except for those stations to the south where I have a hill blocking things. The DP signals from the south are now a lot better. I would suggest anyone living in a hole to mount their yagi for VP. If a lot of stations in your fringe area have VP, you may find yourself actually receiving more stations than before, because VP gets into low areas. I was hoping that my HP only would be easier to null my locals, but, although they are weaker overall, I find it difficult to find a definite point of null when trying to null a HP signal w/a VP yagi. I am by all means leaving my yagi in the vert. position for the upcoming Es season. Lots of DX in mid-Feb. Here are highlights: 2/17 WKDA 103.3 TN @1849 while WHOH was off for 2 weeks. 2/18 WBST 90.7 IN @0001 s/off w/full quieting for 10 watts at 77 mi. 0024 brought 10 watt WBWC Berea, Ohio @209 mi w/soul mx; 0118 10 watt WMCO 91.1 New Concord, Ohio @161mi w/rock; 0615 WFEM 92.1 Pa in \$. 2/28 (EGW) WONC 89.1 Naperville, IL @1858 w/rock. (3.9kw Bill RWW). 3/6 TROPS WSIS 99.1 Va @0617 w/\$ country before WHIO s/on. 3/11 1447 WSMR 89.3 Dayton (45) for 10 watter #9. Totals now at 464 and rising. Some words of wisdom to MS DXers; Confucius say: He who uses AFC gadget while awaiting burst, DXes three frequencies at one time". Yoiks!

Waldo F. Bishop P. O. Box 1678 Tallahassee, Florida 32302

Equipment used: Fisher FM-200-B and Kenwood KT-7000 w/stacked Winegard FM-8's. 2/28 WWOM 98.5 La., WBRC 106.9 Ala., WFOR 103.7 Miss., WJBO 102.5 La., WBIL 106.3 Miss., 3/1 WPMP 99.1 Miss. and WFDR 93.3 Ga. in early AM of 3/19 logged WWL 101.9 La. (this not listed in VJ#5), also WENN in Birmingham 107.7. Is this same? (yes) 3/22 WRBM 101.7 Ga. 3/29 WROA 107.1 Miss., KAYD 97.5 Texas. 4/1 WOKK 97.1 Miss and WREK 91.1 of Voice of Ga. Tech in Atlanta. on 4/3 WGLF 104.1 24 hr \$ (VJ has listed as WANM) 38kw came on the air. Call themselves "New Gulf Radio" "Surrounding Sounds of WGLF". Have background of gull cries, sea chanteys and breakers. These last two steal from WFLA Tampa and WWBA St. Pete. Presently offering \$10.41 each week for postal received from most distant listener from Tallahassee. Advertise "Contemporary FM", which is mix of rock, soul and top 40. FM band is getting a bit crowded. From none in 1962 to 50-70 semi locals. (Welcome Waldo, and I also hope you will contribute often. Why the SASE with your report? Deadline 10th of month)

*THE PROPAGATION WAND ***** Expected DX Conditions 5/1/70 to 6/15/70

E SKIP

As this is written in mid-April the true picture for the 1970 E_s season is still not in focus. The first 12 days of April began slowly (ie. no openings of a major nature reported) with minor E_s activity slowly picking up as we turned towards the 15th.

Forgetting this specific year, May E_s tend to bunch around open dates. It is near lunacy to predict that there will be E skip on certain dates, in advance, but over the years past there have been certain periods during May which have been more productive than others. These 'more likely' periods (for the record only) are: May 1 to 7, May 13 to 17, and May 24 to 31 with special emphasis on the 27th-30th.

There are two important things to remember about May E skip (if this is a typical year):

- (1) While weak, scattered openings (bringing in just one or two stations for a few minutes or less than an hour generally) may show up on virtually any hour and on any date, the stronger, more intense openings (including those that may reach up into the FM band) often run in two to four day bunches. So if you catch a good opening one day, check the next day at the same or slightly earlier time, for a repeat performance.
- (2) Through the end of May, we have the best period of the year for more northerly DX'ers to catch a glimpse of stations from the deep Caribbean (ie. further south than Cuba, and northern Mexico), Central America, and northern South America. Stations as far south as Caracas, Venezuela are within single hop E skip range of southern Florida, and double hop E skip can bring such signals into just about ANY DX'ing den east of the Pacific Coast and south of the US/Canadian border region. Pay close attention to any openings that go south, SE or SW from your location; do not automatically write off Spanish Speaking (SS) stations as Cuba or Mexico. Be especially alert between 1600 (4 PM) and 2000 (8 PM) local time. If you can, tape the sound portion of any Spanish Speaking reception you catch, and if you have any doubt at all what you have logged, get some help from someone who understands Spanish, and, knows the difference between Spanish and Portuguese (Brazil). Most stations to the south still run much higher audio powers than the US and Canadian counterparts, and thus the audio is often better than the video. Most of all, if the station's video requires a different horizontal hold setting than U.S. stations, to lock into sync, stay with it. That's a sure tip off that you have something out of the ordinary! Oh yes, most stations to the south have commercial and station breaks at times other than the hour and half hour.

TROPO

Virtually ANY portion of the USA can expect several good tropo sessions in this period. The most likely regions include east/west across the southern states (Texas to Florida and along the Gulf), (Oklahoma/Kansas to the Carolinas), east/west across the northern tier from Iowa east into New York State and Pennsylvania, and north/south from the

upper mid-west into the mid-south and 'eastern' southwest. For more discussion of this, see BCB'S TECH NOTES - this issue.

METEOR SHOWERS

This starts the heavy meteor season, so we will go to a tabular presentation for this data. Underlined showers are major showers.

<u>Dates</u>	<u>Shower Name</u>	<u>Best N/S</u>	<u>BEST NW/SE</u>	<u>BEST E/W</u>	<u>BEST SW/NE</u>
May 1-6	<u>Aquarids</u>	None	0830-1000	0630-0830	0500-0630
May 11-24	Herculids	2130-2300 0100-0300	2000-2130	None	0300-0430
May 17-21	<u>Cetids</u>	None	1100-1230	0900-1100	0730-0930
May 30	Pegasids	0300-0430 0630-0800	0130-0300	None	0800-0900
June 2-17	Scorpiids	None	0100	2300-2400	2200
June 4-6	<u>Perseids</u>	0800-1000 1300-1500	None	None	None
June 8	<u>Arietids</u>	0600-0800 1100-1300	None	None	None

The Arietids shower actually begins June 2nd and runs thru June 14th, with counts equal to the August Perseids on the peak day, usually the 8th.

Random (early morning, 5 to 7 AM) dates with unusually good meteor burst counts are May 11 (25), 12 (26), 30 (28 - related to Pegasids). Up-coming in June are two random morning dates only (20 with 31 and the 23rd with a whopping 40). Then things begin to liven up in July!

HIGH BAND (7-13) SKIP

If you are outfitted for high band meteor bursts, the best dates will be May 11 and 12 (all paths) in early AM period, the 30th on north-south paths (also early AM period) and June 8th (0600-0800 +) on north/south paths. AND - keep an eye peeled for high band E skip whenever low band Es is intense up through channel 6, or if you are equipped for FM, when FM Es is occurring. Watch the 24-30th of May and June 6-10 closely.

REPORT YOUR TIMES ACCURATELY

When reporting E skip DX to the Digest, try to include when you first saw Es (ie. when the 'band opened'), if it was in process when you first 'tuned-in', and when it faded out (or if you had to stop DXing when it was still coming through). This is most helpful to those of us who attempt to find short and long term 'patterns' in the Es reports from members seen here each month. And good luck!

Bob Cooper, Jr.

THE EUROPEAN SCENE

Roger Bunney, Theelawee, Cuckoo Lane, Rensley, Hants, England, SO5 8JH

(Both March's and April's European Scene are presented here)

MARCH- The smoothed sunspot predictions for the next six months are:
March 94, April 93, May 91, June 90, July 88, August 87.

The period under review has been rather poor, at least for TV. Paging activity has had its moments, especially over the period 15-22 February. On 15th February, a pager was noted slightly HF of 35.58, in English, although no ID could be heard. MUF reached 37 mc this day. On 21st February, MUF reached 40 mc into USSR and the N. Atlantic. New pagers were heard this day, KIE953 Atlanta, 35.58; KGC705, 35.58, unID; KCA501 35.58 unID and the KIF650 35.58 was ID as Birmingham, AL. Others that day: KII508, KGC223, KKM248, KGC397, KGC400, KKI445. On the 22nd, MUF reached up to 40 mc again into the USSR, but after this day conditions started to drop. Actually, KIF650, Birmingham was logged again, with KIM905 and KII508. Pagers were audible second week of March.

The 8th March brought considerable auroral activity, following the eclipse over the USA the previous day. For reasons unknown, not one signal was observed during this aurora in either phases. The first phase was noted at 1700 local time, and the second phase around 1945. RF effects were noted up to 200 mc in the hf band, broadly from NE to NW. Patterning was considerable in band 1 (Low band), and apart from several short bursts on E2, possibly sp E, signals were nil. This was most disappointing, as to actually catch the start of an aurora, rather than hear about it days later, and yet see nothing in the period is very annoying. I hope that Daers in the USA, or others in more northerly latitudes were luckier.

Over the past few weeks, short sp E bursts are becoming more active, mainly of Scandinavian origin, Norway and Sweden. The last day of February brought the sighting of a new test card on E2. This has a prominent circle, with a concentric black and white circle, not unlike the old DFF test card. A contrast wedge is within this circle, with the white portion to the left hand side. This was also seen in Bournemouth on the following Monday afternoon, so it's not an isolated burst of a only only test card or pattern. European Daers, please keep observing. The evening of 9th March; a small opening via Es on E2/3/4, programmes in about 5 minutes. The 14th at 0720 GMT, Norway E4 on test card with very strong bursts.

The channel B6 transmitter at Mangary Hill, Eire, went off the air on February 18th, assisted with the use of explosives. This is a translator, and unmanned. The lack of test card on the morning of the 18th led to a visit to the transmitter, and the somewhat tilting mast. The building housing the off the air receiver and the 1 kw. transmitter was not damaged. The radio Telefis Eireann transmitter is on Mangary Hill, near Letterkenny, County Donegal, 8 miles from the Ulster border.

The radio North Sea International transmitter runs 100 kw MW, 10 kw on 6210 kc and only 1 kw on FM, 102 mc. Shortly they have announced a fourth transmitter, on 9940 kc. No reports of the FM transmitter have been seen for reception in the U.K.

APRIL- I am pleased to report that short E bursts are increasing, with the approach of the '70 season. Especially noted were increasing bursts on channel 01 in the early mornings, from around 0700 GMT. Reception in this past month has been nothing extraordinary. There has been a second report, this time in the UK, of a test card, like the electronic card of the Holland, but on E3. This was first reported from Finland, and now from Buckingham. This could be West Germany, certainly not Holland, as the skip distance to NOS from the UK is only about 250 miles, that is from Buckingham.

Further reports are coming in from the aurora of March 8. Our

Contact in Finland reported several signals, all unID, suffering from the usual problems of Ar- smearing, poor sync, etc. No reports have been forthcoming this far south, at least of TV. Amateur activities reported Ar signals down to Switzerland, and into East Europe, Scandinavia. All of these contacts were via CW. However, there is a report of an Ar contact.

TV for the period: (Times GMT)

- 15/3 Hungary/Poland O1 at 0702 (They use a similar test card)
- Czech O1 TC 0735, Belgium E2 tropes 1528 (250 miles)
- 17/3 Holland E4 0734 w/test card, tropes (350 miles) Belgium E2 1805
- 22,30/3 Belgium E2, test card (BRT)
- 2/4 west Germany E4, TC by MS at 0739, BRT E2 2016
- 3/4 Hungary O1 test card 1448, prolonged for 5 minutes
- BRT E2 TC 1528; Eire TC 1644 on channel B7, tropes 300 miles
- 4/4 NOS E4 0832 tropes, with programming
- 9/4 Sweden E2 0725, schools programme
- 11/4 BRT E2 1350, football

This excludes odd bursts, which are usually not logged, unless on band 3 (high band).

European readers, please note- Belgium E2 was observed on April 3rd 1528 GMT, using a modified test card. Similar to the usual RETMA, it carries a sawtooth across the lower half of the centre circle, completely across the screen. Otherwise the card was the usual.

With an otherwise lack of news, I wish to pass on my system of logging, following the VAF1 system suggested by Morrie.

Strength/Quality

- 1- No image resolvable
- 2- Barely perceivable, unblockable
- 3- heavy noise, just locking
- 4- Very noisy, bold detail, 1 mc
- 5- Noisy but viewable, poor quality at 1.5 mc
- 6- Detail observable @ 2 mc
- 7- Some noise, fair quality, 2.5 mc
- 8- Good quality, noise just discernable, 3 mc
- 9- Excellent, no noise

Modes

- A- Auroral reflection
- E- Sporadic E
- F- F₂ layer reflection
- M- Meteor shower/burst
- T- Tropes
- L- Long duration, 1 minute +
- M- Medium duration, to 1 min.
- S- Short duration, several secs.
- B- Bursts, pings

4/4/70- Cloudy

0932 | L | 2-5 | 9° | 29.94↑ | Holland | poor | T | E4 | Prog.

This gives date, local weather, then local time, duration of signal, extremes of signal, local temperature(C), barometric pressure, country of signal, overall quality, channel and what the signal consisted of.

Other DXers have their own method of logging. I do not know of many that put so much down, which can be a problem filling in with so many floaters and CCI in an Es opening.

The 1-9 scale for quality is taken from the normal 3 mc/s IF bandwidth of a 405 line receiver. Many DXers use modified narrow bandwidth sets, as this gives good selectivity, improved signal/noise. Unlike the USA, we have several systems in use in Europe, with various channel frequencies, hence, selectivity can be a problem.

A tape recording containing archival material will arrive shortly at HQ. With recordings going back to 1959, it 'stars' well known European DXers such as Charles Lafarel, Ian Beckett, Len Stiles, and an 8 minute edited Australian tape of a North Australian DXer, recounting his F₂, TE experiences of the last sunspot maximum, with sound recordings of AMON-TV via TE, USSm TV sound from Vladivostok and Korean FM sound on their low band. Tape runs about 19 minutes. I hope that you find it interesting, even if it borders on the Historical.

Good DX,

Roge

PRESIDENT'S MESSAGE

AS NOTED ELSEWHERE, AND AS MUST BE OBVIOUS BY READING THE VUD, WE HAVE ENCOUNTERED A FEW PROBLEMS IN SWITCHING TO AN ELECTRIC Mimeo WITH THIS ISSUE. MOST PROBLEMS STEM FROM THE CHANGEOVER CHAOS AND THE USE OF OLD 4-HOLE NARROW STENCILS ON A NEW 7-HOLE WIDE SCREEN MACHINE. THOSE OF YOU FAMILIAR WITH MimeoGRAPHING CAN BEGIN TO APPRECIATE THE PROBLEMS.

ALTHOUGH THE DIFFERENCE BETWEEN WIDE AND NARROW IS ONLY A HALF INCH, THAT IS ONE HALF INCH OF TROUBLE! IT LEAVES PLENTY OF ROOM ON BOTH SIDES OF THE STENCIL TO GET INK SMUDGES AND/OR STREAKS IN THE MARGINS ON BOTH SIDES OF THE VUD PAGES. AND THAT IS WHY WE HAVE SUCH STREAKS, MORE SO THIS MONTH THAN USUAL. WE'LL HAVE THE SAME PROBLEM NEXT MONTH TO A LIMITED DEGREE AS A FEW OF THE OLD STENCILS ARE FINISHED UP.

ALTHOUGH WE TRADED IN THE OLD MACHINE FOR THE NEW ONE, WE WERE GIVEN A FREE CAN OF INK TO FINISH THE OLD STENCILS ON THE OLD MACHINE, BUT WE RAN OUT OF INK AND HAD TO USE THE REST OF THE OLD STENCILS ON THE NEW MACHINE, SO THERE OUR PROBLEMS BEGAN. THE OLD STENCILS HAD TO BE TAPED WITH MASKING TAPE ABOUT 2 INCHES BELOW THE PAPER HEADING. GETTING THE STENCIL TAPED ON STRAIGHT PROVED TO BE DIFFICULT IF NOT IMPOSSIBLE; AND GETTING IT TO STAY TAPED WAS ALSO A BIG PROBLEM. TO TOP IT OFF, WE HAD 2 DIFFERENT TYPES OF STENCILS TO TAPE ONTO THE NEW MACHINE, NOT JUST ONE. WE STILL HAD A FEW GESTETNER STENCILS ON HAND WHICH ALTHOUGH WIDER THAN THE STANDARD 4-HOLERS, ARE STILL NOT COMPATIBLE WITH THE NEW STENCILS.

BUT NEXT MONTH WE SHOULD HAVE A NEATER VUD EVEN THOUGH WE'LL STILL HAVE A FEW OLD STENCILS TO RUN OFF BY THE TAPE-AND-GUESS-AND-PRAY METHOD. WE'VE LEARNED A FEW TRICKS BY OUR MISTAKES THIS MONTH, SO QUALITY WILL BE IMPROVED DESPITE THE PROBLEMS.

GLENN HAUSER'S COLUMN HAD NOT BEEN RECEIVED AT PRESS TIME. HE WROTE THAT THE STENCILS SENT HIM NOT ARRIVED YET, SO THE STATISTICS WILL BE ABSENT THIS MONTH.

SHELDON SWARTZ IS BEGINNING TO COMPILE AN FM STATION LIST, SIMILAR TO OUR TV STATION LIST OF LAST NOVEMBER IN CONTENT: STATION, CITY, STATE, POWER, TOWER HEIGHT. BILL LIPIS IS INVOLVED IN A COMPILATION OF FM REGIONAL NETWORKS, AS REQUESTED LAST FALL IN AN EDITORIAL. ANYONE WHO WISHES TO OFFER ASSISTANCE TO EITHER IS WELCOMED TO WRITE THEM DIRECT. OCCASIONALLY SOMEONE WRITE HQ WITH AN OFFER OF ASSISTANCE BUT IS UNABLE TO BE THE CHIEF WORKER ON SUCH A PROJECT SO HERE IS YOUR CHANCE, WHETHER YOU HAVE WRITTEN HQ IN THE PAST OR NOT. WRITE TO EITHER DEPENDING ON YOUR WILLINGNESS:

SHELDON SWARTZ
Box 56
SHARON, MASS. 02067

BILL LIPIS
Box 325
EL CAJON, CALIF. 92022

WITH THE ANNUAL DUES-PAYING DATE OF ANARC UPON US, WE HAVE RECIEVED A CHECK FROM AMBROSE MAXIM TO PAY OUR ANNUAL DUES IN ANARC. THANK YOU VERY MUCH, AMBROSE.

SPEAKING OF ANARC AGAIN, SINCE WE ARE OVER THE 150 MARK IN MEMBERSHIP THIS YEAR AS OF APRIL 15TH, WE HAVE BECOME A 2-REPRESENTATIVE CLUB NOW. WE REQUESTED SOME MONTHS AGO A VOLUNTEER FOR SECOND ANARC REP WITH ALL THE DUTIES IT ENTAILS, AND NONE WERE FORTHCOMING. SO FERDINAND DOMBROWSKI IS THE NEW ANARC REPRESENTATIVE. THIS WAS NOT A SURPRISE TO ANYONE SINCE MOST CLUB EXECUTIVES RECEIVE THE ANARC NEWSLETTER REGULARLY AND IT IS ONLY NATURAL THAT THEY HAVE A VOTE IN ANARC AFFAIRS. IN ADDITION, IMPORTANT ANARC VOTES MUST COME FROM HQ ANYHOW, WHETHER OR NOT THE EXEC IS AN OFFICIAL REP ENTITLED TO A VOTE. (OCCASIONALLY, A REP WOULD NOT VOTE ACCORDING TO THE CLUB'S HQ DESIRES SO THIS STEP WAS TAKEN LAST YEAR TO INSURE THAT THE ANARC REP VOTED IN ACCORDANCE WITH THE CLUB'S HQ AND NOT AGAINST IT).

THE WMVS-10 TV AUCTION IS ON THE AIR THIS WEEK, APRIL 27 TO MAY 2, IN CASE YOU SEE ANY TROPS OUT THIS WAY. LAST NIGHT THEY WERE ON THE AIR TILL ABOUT 0045, CDT, BUT JUDGING FROM LAST YEAR, THEIR SIGN-OFF TIMES ARE LIKELY TO BE QUITE ERRATIC.

I WAS RECENTLY ASKED BY SOMEONE CONN. WHAT AM STATION WOULD BE LIKELY TO BE HEARD UP THERE CARRYING THE BREWERS BASEBALL GAMES. THE BREWERS BASEBALL NETWORK IS STILL IN THE FORMATION STAGE TO THE BEST OF MY KNOWLEDGE. THE KEY STATION IS WEMP-1250, BUT NOT BEING AN AM OR FM DXER I COULDN'T TELL YOU WHAT OTHER STATIONS ARE IN THE NET. WTMJ-4 ANNOUNCED RECENTLY THAT IT WILL CARRY SOME GAMES AS WELL, BUT SOME OTHER WIS.TV

DX MAILBAG

Welcome to the following new members to WTFDA:

Harold Cooper Jr., 29300 Ann Arbor Trail, Westland, Mich. 48185

Charles Dobbins, 12851 Longacre, Detroit, Mich. 48227

Michael Dolci, via Paleocapa 6, 24100 Bergamo, Italy

Waldo Bishop, P.O. Box 1678, Tallahassee, Fla. 32302

Verrell Tallet, 2501 College St., Plainview, Tex. 79072

And, for those keeping tabs on the whereabouts of fellow members, note the following address changes:

Don Ruland to 3219 Burnside Dr., San Antonio, Tex. 78209; Sheldon Swartz to P.O. Box 56, Sharon, Mass. 02067; Randy Miltier to 382 Pine Ave., San Jose, Calif. 95125; and Joe Fela to 150 Robert Pl., South Plainfield, N.J. 07030.

In the news for the merry month of May we find that Leslie Prus is another of our new members who got a swinging introduction to TV DX. Les is a senior at Kansas State U. and had been an SWL-fiend for five years when at 4 A.M. last December 23 the DX bug bit. He turned on TV after giving up the SWL bands for the night. Result: the end of the movie he watched (thinking it was nearby KQTV) turned out to be WCBS-TV in New York. He notes "Well, this was my first introduction to E-skip, and throughout that morning, evening, and the following day, I was happily photographing all that DX". Funny how so many of our members got similar rousing starts in the hobby.

Hyde Park, Massachusetts' contribution to our club is Roy Barstow. Roy says he has been looking for a TV DX club for years. Says all he ever found on the subject was an old 1960 issue of DXing Horizons magazine! He points out "I wrote to the staff (of DXH) but my letters were sent back. I guess the magazine is no longer in print." (Actually Roy, DXH was founded by our own Bob Cooper. It didn't make the grade circulation-wise and thus went the way of Colliers, Coronet, Sat. Eve. Post., etc., but with a much shorter run. Many of our older members have a complete set of DXH's -- and they are highly prized!) Roy is 29 years old and has visited 49 states on BCB. On TV he's lately gotten on the UHF bandwagon -- his best haul is WYAH-27 @ 450 miles.

Another new addition to our growing membership list is Marion Dannels of Middleton, Wis. Marion likes S.W.L. hi-freq FM (150-174 mhz.) and of course TV DX. Equipment includes an SX-130 receiver, Pro-4 FM mobile receiver, and a Zenith TV set (color). On the horizon is the purchase of a Sony videotape recorder. (Why not ask Morrie Goldman about his VTR Marion? He's had good success taping TV DX!)

For those wanting to go to the WTFDA convention at Bob Seybold's this summer, Frank Wheeler has a note of interest. Frank will pick up anybody who needs a ride at the Erie airport; he'll deliver them to Bob's place in Dunkirk. If you are wondering about how to make plane or bus connections drop a line to Frank. You may want to consider routing your passage through Erie. Frank's address is 6589 Wattsburg Rd., Erie, Pa. 16509.

Who else is interested in back issues of VHF-UHF Digest. Verrell Tallet is another of the many who are constantly inquiring about the availability of old issues. The answer is -- yes, there are a few back issues available. But very few! Due to the problem of storage and the varying demand we have tried to phase out the inventory of old bulletins. Generally the ones in the greatest quantity are sold for samples. The remaining classics are usually snapped up within a few months (not used for wrapping garbage or for starting fires to keep the house warm as some people may think). Check with HQ. We may have a few of the issues you'd like to have.

Until next time.....73s

NEBRASKA ETV NETWORK

MAY 1970

V
U
D

TRANSMITTER SITE

MICROWAVE LINK

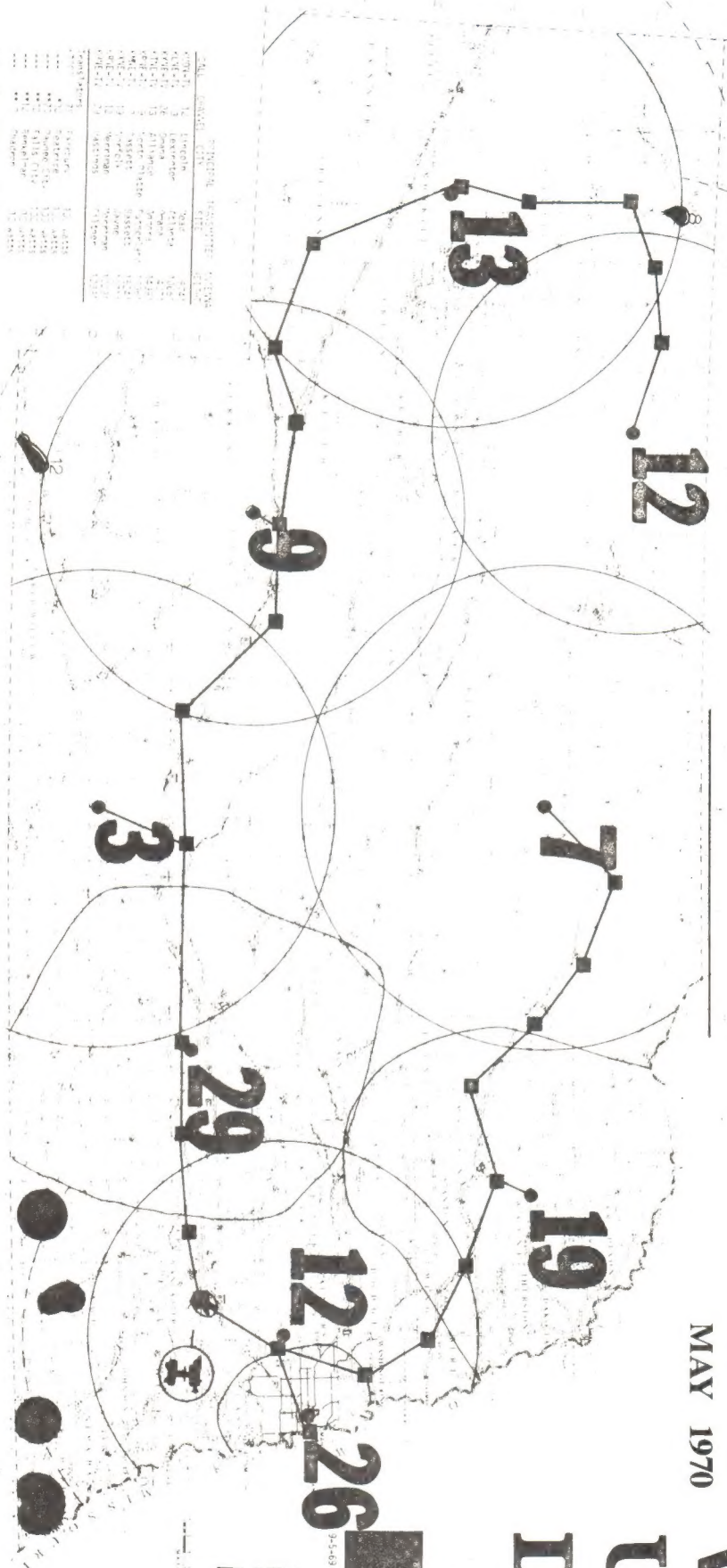


PRODUCTION CENTER



NETWORK OPERATIONS CENTER

STATION	CALL LETTERS	POWER	TYPE	LOCATION
1	KTVE-TV	100	TV	Lincoln
2	KTVE-TV	100	TV	Lincoln
3	KTVE-TV	100	TV	Lincoln
4	KTVE-TV	100	TV	Lincoln
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26	KTVE-TV	100	TV	Lincoln
27	KTVE-TV	100	TV	Lincoln
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29	KTVE-TV	100	TV	Lincoln
30	KTVE-TV	100	TV	Lincoln



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